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International Perspectives

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Teacher Learning that Matters

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Teacher Learning that Matters

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First published 2012
by Routledge
711 Third Avenue, New York, NY 10017

Simultaneously published in the UK
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

*Routledge is an imprint of the Taylor & Francis Group,
an informa business*

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Typeset in Sabon by IBT Global.

Printed and bound in the United States of America on acid-free paper by IBT Global.

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Library of Congress Cataloging-in-Publication Data

Teacher learning that matters : international perspectives / [edited by]

Mary Kooy, Klaas van Veen.

p. cm. — (Routledge research in education ; 62)

Includes bibliographical references and index.

1. Teachers—In-service training—Cross-cultural studies. 2. Teachers—Professional relationships—Cross-cultural studies. 3. Professional learning communities—Cross-cultural studies. 4. School improvement programs—Cross-cultural studies. I. Kooy, Mary. II. Veen, Klaas van, 1970–

LB1731.T4187 2012

370.71'1—dc22

2011010545

ISBN13: 978-0-415-88880-6 (hbk)

ISBN13: 978-0-203-80587-9 (ebk)

For the teachers in Ontario, Canada, whose commitment to teaching and learning in community continues to build their knowledge, skill, and expertise and taken me on a transformative research journey since 2000. For the students whose collaborative dialogues and keen insights have been reshaping my visions and views of teaching and learning since 2006.

Mary Kooy

To Willem, a 4 year old student, who learned from me, his pre-service student teacher in 1988, how to use scissors, and proudly and promptly, cut paper all that afternoon. It was Willem who opened a window to the fascinating and puzzling process of learning and teaching. I also dedicate this work to all those teachers who, every school day, dedicate themselves to inviting their students on the never-ending learning journey.

Klaas van Veen

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Preface

Introducing the Landscapes of Teacher Learning that Matters

The study of teacher learning and development has exponentially evolved in the last 20 years. This can be attributed, in significant part, to ongoing reforms and changes characterizing educational contexts around the globe. We call on researchers from divergent nationalities, disciplines and fields, who share our questions and issues on teacher learning that matters. This offers an unusual opportunity to bring together multinational, multiple and complex conversations with and from a range of experts and expertise in the field.

The increase in studies focusing on the effects of teacher learning on classroom teaching, however, are often small-scale; found in a range of journals, disciplines and national contexts; and lack cohesion and connection. In this book, we bring together a complex network of research, though we do not claim to connect or bring the cohesion desired. Yet, the research stories cumulatively provide glimpses into teacher learning and development that matter insofar as they inform and shape student learning. As such, we present theoretical, social and contextual (e.g., workplace) international research and theory of effective teacher learning with a focus on how teachers build their capacities as learners and teachers. To that end, we entitle the book: *Teacher Learning that Matters: International Perspectives*.

The focus in education has been to raise standards, improve achievement and make students more competitive in an increasingly market-driven world. Impositions of mandates, policies and programs have cleared the way to recognizing the key role of teachers, regardless of national context and educational system, in implementing and instantiating reforms and change. The increasing awareness has led to a focus on preparing teachers to develop skills and strategies reflecting the changes required to improve student learning. This is particularly true in light of the fact that highly qualified and skilled teachers affect the performance and learning of their students.

The critical knowledge that a highly skilled teaching force is needed for actualizing student achievement and educational change has resulted in increased calls for “professional development” for teachers. While, on

the surface, this appears promising, the typical “one-shot workshop,” the persistent mainstay model of teacher learning, fails to sufficiently affect teacher knowledge or make way for professional learning that is teacher driven and in social contexts (see Borko, 2004; Desimone, 2009; Kooy, 2006; Little, this volume; van Veen, Zwart and Meirink, this volume, for example).

Yet, breaking with what Dewey called “the crust of convention” remains a complex challenge. This is complicated by research suggesting that more highly skilled teachers effectively improve student learning. Since change depends on teachers, and effective teacher learning leads to improved knowledge and skill, then it becomes imperative to develop sustained teacher learning as the portal through which change and reforms can be realized across national and cultural boundaries.

This is not to say that we fuse such knowledge. Indeed, we assiduously avoid essentializing or assuming that the part in any way represents the whole (country, educational systems, teachers and students). There is no “thereby hangs a tale” sensibility that veers toward conclusions or finite results. What we present, instead, are instances of knowledge development that challenge existing conventional wisdom and practices around teacher development and learning.

The structure of the volume evolved organically and intentionally, simultaneously. We agreed early in the process, for instance, on a bookend frame: an introduction, which James Britton coined as an “assisted invitation,” a “come with me into multiple worlds and ways research is being developed in eight different nations.” The gesture is dialogic, inviting the reader to engage with the knowledge (re)presented. How does this challenge, shape, reframe my conception of teacher learning? How does that affect or how is it affected by change—in context, content, educational system, researcher, reform agendas? Is this important, even critical, to my developing knowledge? How does this affect teacher learning that matters where I am?

The book is divided into five parts moving from a macro-position (establishing the landscapes of teacher learning) to a micro-position (applied research on teacher learning). Part I contains a chapter by Klaas van Veen, Rosanne Zwart and Jacobiene Meirink entitled “What Makes Teacher Professional Development Effective? A Literature Review.” They create a literature review examining empirical studies conducted over the last 25 years that focus on the relationships between forms of in-service teacher learning and development. Judith Warren Little’s chapter, “Professional Community and Professional Development in the Learning-Centered School,” brings life to the literature review as it creates a portrait of developing a culture of continuous learning. She portrays the effective professional community as one rooted in local problems; linked to external sources of knowledge and support; and nurtured by leadership for critical, collegial and improvement-oriented practice. The chapters set the stage as they characterize the context for and diverse voices of the research that follows.

Part II consists of studies conducted by researchers in Australia, Canada and the United States as they explore teacher knowledge and learning by focusing lenses on the conditions, metaphors, voices and curriculum. In Loughran's chapter ([Chapter 3](#)), two rich examples are described of teachers learning about their own practice, and becoming more aware of the knowledge, skills and abilities as pedagogues. In their 10-year longitudinal study, Wallace and Mullholland ([Chapter 4](#)) explore the learning processes of five science teachers to gain deep understanding of and insights into complexities and nuances of teacher learning in the divergent contexts of their daily work lives. In [Chapter 5](#), Kooy and Colarusso investigate teacher learning through reframing teacher and student voices to transform teaching and learning in schools. To demonstrate, they explore how site-based book clubs that include students and parents create a powerful learning environment for the teachers involved. Students informing the teachers about what and how they learn and experience teaching pedagogies and practices provide the teachers with insights into learning and teaching that matters. Cheryl Craig in [Chapter 6](#) provides a framework for teacher learning and development through a metaphor of teacher as curriculum maker. Acknowledging the value of personal practical knowledge of teaching, Craig argues that teachers are uniquely situated at the interstices of the curricular exchange and hence active agents in curriculum making.

Part III includes studies conducted by researchers in the Netherlands, China and Australia detailing the perspectives and practices that inform and shape the ways teacher professional learning develops both individually and socially. The research looks introspectively, through discourse and critical moments, to call on teacher knowledge and know-how as a heuristic for professional learning and development. In [Chapter 7](#), Attema-Noordewier, Korthagen and Zwart describe an approach that engages teachers to look inward to build awareness of personal qualities, potential and inspiration. They found that teachers grew in their awareness of their personal, collegial and student strengths that, in turn, affected relationships and curriculum development. Meijer and Oolbekkink ([Chapter 8](#)) investigate forms of transformative learning that affect teachers' identity and how these forms inform learning processes and reconstruction of commitment and passion to teaching. [Chapter 9](#) documents research conducted by Parr and Doecke, who describe in detail a rich example of how two teacher educators and two teachers use reflective writing about learning processes to create dialogue resulting in powerful and transforming learning. Ying ([Chapter 10](#)) expands the social context to include educators from a broad range of contexts as they meet in professional learning communities using writing and reflections to destabilize conventional thinking about teacher learning and develop and strengthen the contexts for collaboration construction of professional knowledge.

Part IV consists of studies conducted in the United Kingdom, Cyprus and Sweden. Each aims to enact research and practice as expressed in a

new master's program for teachers, and two research inquiries into science education and professional learning. Mitchell and Alexandrou (Chapter 11) explore a master's program for teacher learning in a context of increasing political pressures and economically deprived urban schools to successfully support teachers to identify and challenge their existing practices by focusing on the fundamental and personal core of teaching and pupil learning. In Chapter 12, Hadjiachilleos and Avraamidou investigate the learning processes of elementary teachers actively involved in an open-ended science inquiry in an outdoor setting that led to new understanding of the subject matter and pedagogy. Nilsson (Chapter 13), also located in science education, aims to gain a deeper understanding of identifying the qualities of a local professional development program based framed in the research of Desimone (2009) revealing how features such as engagement, shared vision, a community of learners and subject matter knowledge materialize in a local context.

Part V's chapter shares a focus on teacher learning that really matters for both teachers and their students. The teacher as learner is a significant stakeholder in each educational context and culture. The divergent national, cultural and political backgrounds of the researchers and research provide landscapes of teacher learning that bring alternative perspectives and insights to life. As such, it seeks to expand and extend the discourse to open the way for interactive dialogue and mutual explorations. For those of us interested in knowing more about teacher learning, we acquire more to work with for informed decision-making and continuing the inquiries.

The volume etches landscapes worth exploring for those critically interested in and aware of the changing texts, contexts and commitment to teacher learning that matters.

Mary Kooy and Klaas van Veen

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Part I

Orienting the Way on the Landscape

1 What Makes Teacher Professional Development Effective?

A Literature Review

*Klaas van Veen, Rosanne Zwart
and Jacobiene Meirink*

INTRODUCTION

This chapter aims to explore what is currently known about the effectiveness of teachers' professional development (PD) programs or PD interventions on the quality of teachers, their teaching and student learning. *PD activities* refer to a wide range of activities in which teachers participate, such as information meetings, study days, 1-day workshops and training sessions; coaching and intervision; mentoring, classroom observations, participation in a network, offsite team training sessions, book and study clubs; and research projects. Most of the current PD activities can be characterized as traditional forms of PD. *Traditional* refers to the way PD was organized for the last decades: mainly through lectures, 1-day workshops, seminars and conferences, which were not situated at the workplace, in which teachers played a passive role, and in which the content was not adjusted to the problems and issues in the daily teaching practice. *Innovative forms* refer to all those interventions in which teachers do play an active role, and the issues in their own teaching practice determine the content. Some examples are collaboration of colleagues, study and book clubs, mentoring, coaching, intervision and research by teachers. It also includes the discourse on professional learning communities in which the emphasis is on the collective responsibility of teachers for the learning of their students and insights on teaching and PD (see also the chapter of Judith Warren Little in this volume; Borko, Jacobs & Koellner, 2010).

The distinction between traditional and innovative is rather normative in the sense that innovative would be better than traditional, even although empirical evidence for this assumption is still missing, as will be shown in this review. Besides, traditional forms are still used on a large scale, although there is also an increase of mixed forms. The current discourse views PD as more effective if the teacher has an active role in constructing knowledge and collaborates with colleagues, the content relates and is situated in the daily teaching practice and the possibilities and limitations of the workplace are taken into account. However likely, these assumptions

lack empirical evidence. Therefore, it is relevant to review what is currently known empirically on effective features of divergent PD interventions and on the school organizational conditions to successfully implement these interventions. So, the following questions guide the review study:

1. What is known about the effective features of interventions for PD?
2. What is known about the school organizational conditions of these PD interventions?

THEORETICAL FRAMEWORK

Teacher PD in this chapter refers to those processes and activities designed to enhance the professional knowledge, skills and attitudes of educators so that they might, in turn, improve the learning of students (Guskey, 2000). The focus of the review are those activities explicitly designed for PD of teachers, which we describe as interventions for PD. More specifically, the focus is on those studies that report about effective features of PD.

When, however, is PD effective? Assuming the only relevant indication is increased student results, studies should focus on the relationships between the intervention and student results. If improving teacher behavior or teacher knowledge is the main goal of PD, then the focus should be relationships between the intervention and teachers' behavior or knowledge. However, if the assumption is that a change in behavior is always the result of a change in cognition, the focus should be the relationships between the intervention and the cognition, and perhaps also on teacher behavior. The same applies to the assumption that student results are the result of a change in teacher behavior or teacher cognition. Given different aims and assumptions behind concepts of PD effectiveness, it is essential to formulate the model this review uses to understand the effectiveness of PD.

As a main theoretical and organizing frame, this study applies Desimone's (2009) conceptual model for studying the effects of PD on teachers and students, based on an extended literature review. The model demonstrates interactive, nonrecursive relationships between (a) the critical features of PD, (b) teacher knowledge and beliefs, (c) classroom practice and (d) student outcomes (see [Figure 1.1](#)).

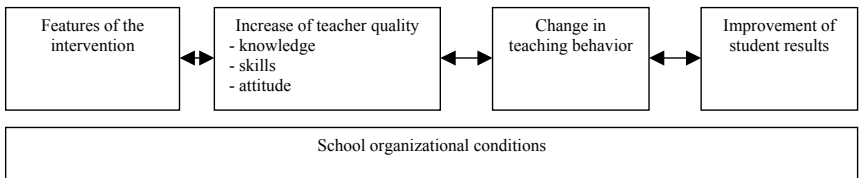


Figure 1.1 Analytical framework for the study (based on Desimone, 2009).

The relationships between these elements are not linear per se, as often is the case, rather as integrated and dynamic (cf. Clarke & Hollingsworth, 2002). For instance, research shows that a change in teaching behavior can be caused as much by a change in teacher knowledge as a change in student behavior (Guskey & Sparks, 2004). Rather, it is essential to articulate the relationships between the different elements, which can be described as the ‘theory of improvement’ (Wayne, Yoon, Zhu, Cronen & Garet, 2008; Desimone, 2009). What is the intervention supposed to do? Who has to learn what, how and why? And what elements will result in an effective PD intervention? This theory of improvement can refer to three aspects: theory of change, theory of instruction and theory of context.

Theory of change refers to the assumed relationships between the features of the PD intervention and the change in teacher knowledge and/or change in instruction. Theory of instruction focuses on student results and refers to the relationships between the features of the PD intervention, the intended changes in teacher knowledge and instruction and the expected changes in student outcomes. Theory of context refers to the school organizational conditions necessary to implement and sustain successful PD in the school or in the classrooms. As Smylie (1995) observed, and more recently Little (2006) and Imants and van Veen (2010) confirm, most PD research hardly takes the conditions of the daily workplace into account, while these conditions strongly determine the opportunities and limitations of PD interventions.

Measurement is another important factor in effective PD interventions. Despite the recent focus on evidence-based practices, interventions that are hardly explored for their effect still dominate PD practice. As Hattie (2009, p. 2) summarized the general state of educational research on these topics: “[T]he research evidence relating to ‘what works’ is burgeoning, even groaning, under a weight of such beautiful ‘try me’ ideas.” One of the reasons for this lack of evidence is the discussion about what is considered to be evidence.

Some argue that conclusions about causality and effectiveness can only be based on randomized controlled trials (cf. Slavin, 2008; Raudenbush, 2005; Wayne et al., 2008). Others argue that this approach is limited due to the underlying technocratic assumption, in which the effectiveness of the features of the intervention is the only relevant focus. Educational goals, which can strongly differ per school and teacher, can also determine effectiveness (Biesta, 2007). Others, while supporting the evidence-based approach, point to the risk of constructing lists of what works because it might “provide yet another set of recommendations devoid of underlying theory and messages” (Hattie, 2009, p. 3) or neglecting the specific features of the context.

These last issues seem to complicate the debate on effectiveness: Often it is only known what works in general, or only in very specific situations. So Raudenbush (2005) argues that randomized controlled trials are actually

the only valid way to explore effectiveness, but it is not sufficient to understand why what works. Qualitative, small-scale case studies are therefore needed (cf. Little, 2006). And, as Raudenbush (2005) adds, (multiple) case studies are needed to provide working assumptions that can be tested in large-scale studies.

In addition, Verloop (2003, p. 208) notes that besides effectiveness studies, there are all kinds of educational and subject pedagogical theories and notions providing clear and insightful descriptions of educational processes that are the result of systematic thinking and research into teaching and learning. Although this body of knowledge provides no rigid empirical evidence about what works, it can be very relevant for teachers. So, to get an overview of what is known, this review will include both large-scale effectiveness studies and small-scale qualitative studies. The combination of both research approaches enables us to understand when and why and for whom an intervention is effective.

METHOD

This review focuses on those activities that are explicitly designed for PD of teachers (referred to as PD interventions). An important criterion for inclusion of studies in this review is that researchers examined the effect of the intervention. As described earlier in the theoretical framework, effectiveness can refer to different elements of the analytical framework: teacher quality, teacher classroom behavior and/or student learning.

Search Strategies and Criteria

Several search strategies were used to accomplish an extended overview of studies on the effect of PD interventions. We conducted literature searches with the use of ERIC, PsychINFO, Dissertation Abstracts, Sociological Collection, PiCarta and Google Scholar. Furthermore, we examined references of previous reviews. For this process of searching and analyzing a protocol was developed. This protocol included a list of search terms, which was partly based on previous reviews. The most important search terms were: teacher PD, teacher learning, in-service program, learning in the workplace, effects of PD, effective PD and more specific terms referring to learning activities and formats as coaching, mentoring, workshops, seminars, etc.

After an extensive exploration, it appeared that many studies conducted in the past 25 years have been summarized in a large number of review studies. Therefore, we decided to take these review studies as a starting point for the analysis. Next, we researched PD interventions conducted in the past 10 years (2000–2010) in addition to the existing overviews.

For the selection of the additional studies, the following criteria were used:

- The study needs to report on a PD intervention.
- The study needs to report on outcomes with respect to teacher learning or student learning, outcomes for teacher learning as well as student learning or even on the relation between teacher learning and student learning.
- The study has to be published in a peer-reviewed journal, in a dissertation or in a report commissioned by a renowned institute or government agency.
- Both quasi-experimental case studies and quantitative and qualitative studies are included as long as the method was elaborate and transparent enough in order to draw some conclusions about effective features. We based this decision on weighing the methodology and the ‘impact’ of the results. Studies were scored on: (a) soundness/rigidity of methodology and (b) substantial qualitative or quantitative results.
- The study needs to add to previous studies in such a way that it concerns an intervention that has not been examined yet or it concerns a new design or method.

Content Analysis of Additional Studies

Based on this first selection, we selected 11 reviews and 95 additional studies on PD interventions. We summarized all studies according to 22 aspects, such as: type of study, context, the content of the intervention, learning goals, ‘theory of improvement,’ the results, school conditions and how it can be placed in the ‘conceptual framework.’ Of the 95 additional studies it appeared that some studies did not offer enough information to learn more about effective features of the PD interventions. In the end, 34 studies on PD interventions remained for the more detailed analysis.

Input of Experts in the Field of Teacher Learning

The aim of consulting various (international) experts in this field was to make sure that no important, not (yet) published or published reports were excluded in this review. In addition, the researchers used these consults to identify the most relevant studies and to discuss the results and conclusions.

RESULTS

A General Overview

The review brings together 11 major reviews and texts and 34 additional empirical studies on effective PD that cover the last 25 years of research on PD interventions. The 11 review texts are: Blank and de las Alas (2009); Borko et al. (2010); Desimone (2009); Hawley and Valli (1999); Kennedy

(1998); Knapp (2003); Little (2006); Smith and Gillespie (2007); Timperley, Wilson, Barrar and Fung (2007); Vescio, Ross and Adams (2008); and Yoon, Duncan, Lee, Scarloss and Shapley (2007). Some of these reviews refer to each other or are based on some of the same studies, but some differ strongly in focus, and also in studies they chose to include. For instance, Timperley et al. includes studies from Australia, New Zealand and Europe, which are not mentioned in the other texts. Regarding the difference in focus, Yoon et al. selected only studies that are in line with the Clearinghouse Standards, while others are less concerned with these strict criteria and more focused on understanding the effectiveness of features (for instance, Kennedy, 1998; Little, 2006). Together they provide an impressive collection of the theoretical and empirical body of research of the last 25 years.

Furthermore, as a result of intensive research, we include 34 empirical studies of the last 10 years. Some of these studies comprise large-scale surveys, aiming at exploring general effects of PD interventions on teachers and students. The majority of the studies, however, explore the effects of one PD intervention. The interventions differ in duration from 3 months to 5 years, in composition from interdisciplinary teams to individual approaches and in type of education, from primary to vocational education. The topics for PD also differ strongly. Most interventions, however, have a duration of about 1 (school) year and aim at primary education in the United States. Other countries are France (Morge, Toczek & Chakroun, 2010), Switzerland (Vogt & Rogalla, 2009), Canada (Butler, Lauscher, Jarvis-Sellinger & Beckingham, 2004), Australia (Ingvarson, Meiers & Beavis, 2005) and the United Kingdom (James & McCormick, 2009; Stark, 2006). Four studies were conducted in the Netherlands (Bakkenes, Vermunt & Wubbels, 2010; Hofman & Dijkstra, 2010; Ponte, Ax, Beijaard & Wubbels, 2004; Zwart, Wubbels, Bergen & Bolhuis, 2009).

The interventions emphasize subject matter, curriculum design, instructional strategies and student learning in a subject area and they often concern science subjects (like math and natural sciences) (Buczynski & Hansen, 2010; Chamberlin, 2005; Cohen & Hill, 2000; Desimone, Porter, Garet, Yoon & Birman, 2002; Doppelt et al. 2009; Ermeling, 2010; Fishman, Marx, Best & Tal, 2003; Franke, Carpenter, Levi & Fennema, 2001; Garet, Porter, Desimone, Birman & Yoon, 2001; Holmlund Nelson & Slavit, 2007; Kazemi & Franke, 2004; Lee, Hart, Cuevas & Enders, 2004; Lee, Lewis, Adamson, Maerten-Rivera & Secada, 2007; Morge et al., 2010; Norton & McCloskey, 2008; Saxe, Gearhart & Nasir, 2001; Supovitz & Turner, 2000; Telese, 2008; Vogt & Rogalla, 2009; Wallace, 2009).

Studies related to language education were less represented. The few studies concern language education in primary schools (Garet et al., 2008; Lee et al., 2007; Tienken & Achilles, 2003; Wilson, 2008), language education in secondary schools (Wallace, 2009) and language education in kindergarten (Domitrovich et al., 2009; Bierman et al., 2008; McCutchen et al., 2002). Two studies concern teacher networks (Hofman & Dijkstra, 2010; James & McCormick, 2009); one study pertains to an intervention with highly

structured subject matter content and curricula (Domitrovich et al.; Bierman et al.). One study was conducted in special education (Butler et al., 2004).

The interventions that were studied are usually subject-matter-oriented summer schools or series of subject-matter-oriented workshops followed by a transfer to teachers' teaching practices. They come to light through teacher research (Buczynski & Hansen, 2010; Butler et al., 2004; Chamberlin, 2005; Desimone et al., 2002; Doppelt et al., 2009; Ermeling, 2010; Fishman et al., 2003; Hofman & Dijkstra, 2010; Holmlund Nelson & Slavit, 2007; James & McCormich, 2009; Kazemi & Franke, 2004; Lee et al., 2004; Levine & Marcus, 2010; Morge et al., 2010; Norton & McCloskey, 2008; Ponte et al., 2004; Saxe et al., 2001; Supovitz & Turner, 2000; Wilson, 2008), participation in learning communities (Butler, et al.; Desimone, et al.), observing and experimenting in the classroom (Chamberlin, 2005; Zwart et al., 2009), coaching by in-service trainers in the classroom (Domitrovich et al., 2009), but also other forms. During this process, follow-up meetings are regularly organized. The amount of involvement of the in-service trainers (which are also often researchers) varies from a coach with a fair amount of distance from participants on the one end to a participating member of a learning community on the other end. Although most programs claim to be based on issues and concerns of teachers, it is striking that the idea of an expert trainer who determines what teachers should know or do and how they should learn is still dominant. Exceptions are forms of action research (e.g., Ponte et al., 2004; Stark, 2006) and working in professional learning communities as described in the review study of Little (2006; see also her chapter in this volume). More specifically, it concerns teacher networks, research teams in schools, lesson study groups, meetings on student work using a reflection protocol, collegial observation and video clubs. The discussion on professional learning communities and teacher research goes beyond 'deficit thinking' to provide guidelines for unraveling and solving daily recurrent problems in practice.

In general, there is a strong focus on subject matter, active and inquiry-oriented learning and professional learning communities. Nevertheless, (elements of the) traditional forms of PD are still in use.

Methodological Problems

One of the results refers to the nature of the current research on effective teacher PD. Various factors complicate conclusions on what works. Assumptions about what constitutes valid research will determine whether these problems are classified as minor or major dilemmas. The problems are:

Teacher Quality As Primary Effect Size

The analytical framework of this review distinguishes factors that can be affected by the intervention such as teacher quality, teacher behavior and/or student learning. In research on effective PD interventions it appears