Improving classroom practices: the impact of leadership, school organizational conditions, and teacher factors

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CHAPTER VI

Conclusions and discussion

This research project aimed to deepen our insights in the nature and dynamics of building school-wide capacity for improvement. Building on studies of leadership, educational change and student motivation, four empirical studies were conducted as part of a longitudinal survey in which teachers and students of elementary schools participated. Each of these studies contributed to the overall aim of the research project as intended to answer, respectively, the following research questions:

- What is the relative importance of teachers’ classroom practices and efficacy beliefs for variation in student motivation to learn?
- What is the relative impact of leadership practices, school organizational conditions, teacher motivational factors and teacher learning on teachers’ classroom practices?
- Does school-wide capacity for improvement develop over time?
- To what extent can school-wide capacity for improvement explain variation in teachers’ classroom practices?

In this chapter, the findings of the four empirical studies reported will be reviewed and discussed. We start with summarizing the main findings of the four studies, followed by a discussion of some general conclusions concerning the impact of school-wide capacity for improvement on classroom practices and student motivation. Next, a number of suggestions for future research into school improvement will be described. Finally, the chapter ends with some implications for school leaders and superintendents.

Summary of main findings

In many countries elementary schools are faced with a decrease in students’ motivation for school. A dominant explanation for a decrease in motivation for school is a poor integration of students’ personal world into the school environment (Eccles & Midgley, 1989). Though scholars have recognized the supportive role of teachers as part of the school environment, systematic research into the supportive influence of the classroom as learning environment
on students’ motivation and the role of teachers is scarce (Urdan & Schoenfelder, 2006; Vedder, Boekaerts, & Seegers, 2005). In the first study (Chapter 2) we therefore examined the relative importance of classroom instruction and teachers’ efficacy beliefs to explain variation in student motivation. According to psychological theories, we included both motivational factors (i.e., well-being in class and school, academic self-efficacy, intrinsic motivation, mastery goals and performance-avoidance goals) and motivational behaviour (school investment) to measure students’ motivation to learn. We used current conceptions of teaching and learning to identify the following aspects of teaching that may affect students’ motivation: process-oriented instruction, relatedness to students’ world, cooperative learning, and differentiation. A questionnaire was used to measure the motivation of students (N = 3462), and classroom practices and sense of self-efficacy of teachers (N = 194) from 32 elementary schools in the Netherlands.

The results of the regression analyses offered support for our assumption that teachers’ classroom practices positively affect students’ motivation to learn. Although the effects were small, it appeared that three of the four aspects of teaching affected students’ motivational behaviour or motivational factors. Relating instruction to students’ personal world stimulated that students have learning goals focused on the development of competence or task mastery. Cooperative learning methods were correlated positively with students’ well-being in their own class. In addition, the results backed up our assumption that teachers’ sense of self-efficacy is a rather strong predictor for the way teachers shape their classroom practices. Contrary to these positive effects, it also appeared that process-oriented instruction seemed to decrease students’ well-being and investment in school. These results suggested that a model of teaching and learning that replaces external control over the learning process by paying attention to meaningful goals and self-regulated learning, will not always improve students’ motivation. Although not dissimilar to findings from other studies (Teddlie & Reynolds, 2000; den Brok, Brekelmans, & Wubbels, 2004), in our study a small class-level and school-level variance was found, and different aspects of classroom practices explained only a small percentage of variance between different aspects of students’ motivation. This suggests that other factors not included in our model may affect students’ motivation to learn.

While the results of the first study provided considerable evidence for the impact of classroom instruction on student motivation, a second study was conducted to gain insight into the role of leadership practices, school organizational conditions, teacher motivation and teacher learning, for
improving the instructional strategies teachers use in their classroom (see Chapter 3). Drawing on a framework developed by Leithwood, Jantzi and Mascall (2002) that can help to guide research into the success of large-scale reform, and using theories of adult learning and change within organizations, theories on motivation, and research on transformational leadership, we hypothesized relations among dimensions of transformational leadership (i.e., vision building, individual consideration and intellectual stimulation), school organizational conditions (i.e., participative decision-making, teacher collaboration and trust), teacher motivational factors (i.e., teachers’ sense of self-efficacy, the internalization of school goals into personal goals, tolerance of uncertainty and well-being), teachers’ engagement in professional learning activities (i.e., keeping up to date, and experimenting and reflection), and the instructional strategies teachers use. In the second study, it was assumed that teachers’ engagement in professional learning activities has a direct effect on the quality of their instruction. In addition, transformational leadership, school organizational conditions and teacher motivation were hypothesized to have an indirect effect on teachers’ classroom practices through teachers’ engagement in professional learning activities. Transformational leadership was also expected to influence directly school organizational conditions and teacher motivation. We tested a structural model with a sample of data from 502 teachers at 32 Dutch elementary schools.

Our data offered support for the assumption that teachers who are more engaged in professional learning activities have ‘better’ classroom practices, in terms of quality of instruction. Teachers’ sense of self-efficacy appeared to be the most important motivational factor for explaining teacher learning and the quality of their instruction. When teachers have a high sense of self-efficacy, they are more engaged in professional learning activities and show ‘better’ classroom practices. Findings also showed that positive feelings of well-being can inhibit teacher learning. Teachers who are more satisfied with work may lack the motivation for change and thus may not be willing to improve their classroom practices. Teacher commitment seemed to play an important role in mediating the effects of leadership practices and school organizational conditions on teachers’ sense of self-efficacy and their professional learning. With respect to transformational sense of self-efficacy and their professional learning. With respect to transformational leadership, the results indicated that, to be effective, school leaders need to use a combination of transformational leadership practices to improve teaching and learning. More specific, vision building was positively related to teacher participation in decision-making and teachers’ commitment to organizational goals, but seemed to inhibit teachers’
engagement in activities to keeping up to date. Individual support and consideration, another dimension of transformational leadership, appeared to affect teacher motivation indirectly via participative decision making and teachers’ well-being. More support and consideration seems to increase teacher participation and appears to reduce teachers’ concern for well-being. On the other hand, more support and consideration also appeared to hinder teachers’ engagement in experimenting and reflection activities. With respect to the intellectual stimulation dimension, it appeared that the more school leaders stimulate teachers to encourage teachers to reflect on their assumptions, beliefs, and values, the more teachers perceive a climate of trust and the more they collaborate, which, in turn, leads to more motivated teachers. Intellectual stimulation of teachers was also positively related to the extent to which teachers are engaged in activities for keeping up to date. In conclusion, the results indicated that, to be effective, school leaders need to use a combination of transformational leadership practices to improve teaching and learning. On the basis of our results, it was recommended to identify organizational conditions and psychological factors that contribute to differences in teaching effects on student learning and to examine whether these effects persist over time.

For developing substantive knowledge concerning the process of building school-wide capacity for improvement, we argued for the need for more longitudinal research. The third study (Chapter 4), therefore, was conducted to gain insight into the school-wide capacity for improvement over a period of time. School-wide capacity for improvement referred to a set of conditions at school and teacher-level that enables teachers’ professional learning and support teaching (Heck & Hallinger, 2009; Mulford & Silins, 2003; Sleegers, Bolhuis & Geijsel, 2005; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). Based on the findings from the second study, the following conditions at school-level and teacher-level were included to measure school-wide capacity: transformational leadership (i.e., vision building, individualized consideration and support, and intellectual stimulation), school organizational conditions (i.e., participative decision-making, and teacher collaboration), teacher motivational factors (i.e., teachers’ sense of self-efficacy, and internalization of school goals into personal goals), and teachers’ engagement in professional learning activities (i.e., keeping up to date, and experimenting and reflection). The longitudinal covariance structure of our data was examined and multilevel models were fitted for each of conditions with a sample of data on 1010 teachers of 32 Dutch elementary schools from six different measurement occasions.
The findings showed that, over a period of five years, school leaders demonstrated more transformational leadership behaviour. Secondly, it appeared that teacher motivational factors and teachers’ engagement in professional learning activities hardly improved during the five years of our study. An explanation for the relatively stable nature of teacher motivational factors might be the relationship between motivational factors and personality variables. Personality variables can serve as (distal) antecedents of sense of self-efficacy and goal commitment (e.g., Barrick, Mount, & Strauss, 1993; Judge & Ilies, 2002). Our findings also showed that teachers’ engagement in professional learning activities appeared to be barely improved or even became less after five years. Given the facilitating role of teacher motivational factors for teachers’ engagement in professional learning activities (e.g., Geijsel, Sleegers, Stoel, & Krüger, 2009; Goddard, Hoy, & Hoy, 2000; Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011a), the lack of improvement of teachers’ engagement in professional learning might be explained by the relatively stable nature of teacher motivational factors as found in our study. The results also illustrated that it seems hard for schools to sustain school-wide capacity over a period of five years. At first instance most of the conditions decreased and several of them (i.e., teacher motivational factors and teachers’ engagement in professional learning activities) did not show anymore the same level as they had in the beginning of the study. Due to our strategy to analyze the data on teacher-level, differences between schools with regard to the process of building school-wide capacity to change could not be illuminated.

The fourth study (Chapter 5) was conducted to examine changes in teachers’ classroom practices and to explain these changes from leadership practices, school organizational conditions, teacher motivation and teacher learning. As in the third study, in this study school-wide capacity for improvement was measured using conditions at school-level and teacher-level (i.e., transformational leadership practices, school organizational conditions, teacher motivational factors, and teacher engagements’ in professional learning activities). Based on the findings from the first and second study, relatedness to students’ world and cooperative learning referred to instructional strategies teachers use. It was assumed that these strategies will change over a period of time, and that this change can be explained by school-wide capacity for improvement. Furthermore, it was expected that school-level conditions (i.e., dimensions of transformational leadership and school organizational conditions) are of significant importance for the enhancement of teacher-level
conditions. These hypotheses were tested using longitudinal data on 862 teachers from 32 elementary schools.

On average, the findings, offered support for our hypotheses. Teachers’ classroom practices changed over time, however, after three years teachers appeared to pay less attention to relatedness to students’ world and cooperative learning than they did at the start of the study. Differential effects were found of school-level and teacher-level conditions on changes in classroom practices, of which teacher-level conditions showed the strongest effects. Most of the variance in the instructional strategies teachers use was explained by teachers’ engagement in professional learning activities, in particular experimenting and reflection, teachers’ sense of self-efficacy, and the internalization of organizational goals as personal goals. It was also found that school-level conditions can foster teacher motivation and learning. Teacher motivation appeared to be affected by the participation of teachers in decision-making processes, and the vision building and intellectual stimulation dimension of transformational leadership. In addition, the results suggested that the intellectual stimulation dimension of transformational leadership and collaboration among teachers are of significant importance for teachers’ engagement in professional learning activities. Contrary to our expectations, individualized consideration and support seemed to inhibit teachers’ engagement in experimenting and reflecting.

Conclusions and discussion
In this section, some general conclusions are drawn on the basis of the preceding findings and an attempt is made to reflect on the research questions of this dissertation.

The impact of teachers’ classroom practices and their sense of self-efficacy on student motivation.
First, teachers’ classroom instruction can have an impact on students’ motivation to learn. Of the four different instructional strategies we measured (i.e., process-oriented teaching, relatedness to student’s world, cooperative learning and differentiation), relatedness to student’s world and cooperative learning correlated positively to students’ motivation. Relating the instruction to student’s personal world stimulates students to have goals focused on task mastery, which backs up the argument of Dewey that education should provide students with opportunities to work on realistic and situated activities (Dewey, cited in Roelofs, Visser, & Terwel, 2003). It was also found that stimulating
students to cooperate and communicate with other students increases their well-being. This finding confirms claims from motivational theories that positive interdependence (cooperation) can result in psychological well-being (e.g., Cohen, 1994; Slavin, 1996; Johnson & Johnson, 1999; Krol, 2005).

Second, teachers’ sense of self-efficacy has an impact on both teachers’ classroom practices and students’ motivation to learn. Teachers with a high sense of self-efficacy use more instructional strategies based on constructivist approaches to learning than low self-efficacious teachers. As high self-efficacious teachers are more willing to experiment with new methods and work longer with students who are struggling (Tschannen-Moran & Woolfolk Hoy, 2001), they create more supportive learning environments for students. It also appeared that process-oriented instruction and cooperative learning mediate the effect of teachers’ sense of self-efficacy on students’ motivation. To better understand the role of teachers’ sense of self-efficacy for their classroom practices and, hence, students’ motivation to learn, more research is needed in which sense of self-efficacy, teachers’ instructional strategies and student motivation are combined using more sophisticated techniques.

As a relatively small class-level and school-level variance in students’ motivation was found, it can be assumed that other teacher- and student-related factors account for variance in the motivation of students to learn. From a social-cognitive perspective on motivation, personal and social-contextual factors are salient components that lead to motivation and achievement (e.g., Bandura, 1997). Social-contextual factors that could be considered are, for example, teachers’ messages about the difficulty of the task and their expectations towards students, and students’ perceived abilities of classmates. In addition, future studies should include personal or student related factors, such as sex and age (Engels, Aelterman, van Petegem, & Schepens, 2004), type of education (van Damme, Troy, de Meyer, Minnaert, Lorent, Opdenakker, & Verduyckt, 1997), home situation (SES, home support, social origin), and past performance (Peetsma, Hascher, van der Veen, & Roede, 2005), to explain variation in students’ motivation to learn. These findings could provide new evidence that add to the results evolved out of the present dissertation.

The role of teacher factors, school organizational conditions and leadership practices for improving classroom practices.

As previous research has shown (e.g., Geijsel, 2001; Geijsel, Sleegers, van den Berg, & Kelchtermans, 2001; Runhaar, 2008; Supovitz, 2002), active learning through experimenting and reflection, and enhancing knowledge through
keeping up to date with new insights and developments, affected the quality of instruction. Our findings confirm these results of previous research. Moreover, it can be concluded that experimenting and reflection have the most impact on the quality of instruction.

Second, most of the variance in teachers’ engagement in professional learning activities is explained by teacher motivational factors. Teachers’ sense of self-efficacy seemed to be the most important motivational factor for explaining teacher learning and classroom practices. High self-efficacious teachers are more willing to experiment with new methods and to keep themselves up to date with new insights and developments such as teaching methods and curriculum. This result concurs with findings of earlier studies into the role of teachers’ sense of self-efficacy for teacher learning and educational change (Bandura, 1997; Geijsel et al., 2009). Furthermore, teacher commitment plays a central role in mediating the effects of leadership practices and school organizational conditions on teachers’ sense of self-efficacy and engagement in professional learning activities. This emphasizes the key role teacher commitment plays in supporting the impact of the workplace conditions on teachers’ learning.

Dimensions of transformational leadership practices have differential effects on teacher motivation and teachers’ engagement in professional learning activities. A greater part of these effects is mediated by school organizational conditions. By initiating and identifying a vision, school leaders stimulate teachers’ participation in decision-making and reinforce the identification of teachers with the organization. Teachers therefore may feel more committed and are more willing to internalize organizational goals and values as their personal goals. As a consequence, teachers have a higher sense of self-efficacy. Vision building can also inhibit teachers’ engagement in professional learning activities to keeping up to date if teachers are not considered as co-constructers, and therefore may also feel less eager to collect new information. With regard to the intellectual stimulation dimension, stimulating teachers to professionalize themselves can foster teacher collaboration and teacher learning. Through intellectual stimulation, school leaders can make teachers believe that improving classroom practices is both an individual and collective enterprise. As a consequence, teachers are more willing to experiment and reflect. In addition, stimulating teachers to professionalize themselves positively affects teachers’ engagement in activities for keeping up to date. The provision of financing, time and space, enhances the extent to which teachers collect new knowledge and keep up to date with new insights. Our findings also suggest that individualized
consideration and support can increase teacher participation in decision-making and can help teachers to reduce their concerns for well-being. On the other hand, individual support can hinder teachers’ engagement in learning activities to experimenting and reflection. Concern and respect from the school leader for teachers’ feelings and needs that are rather different from the direction of change, might be interpreted as a tacit agreement of current classroom practices and therefore discourage teachers from engaging in learning activities. Altogether these results indicate that, to change classroom practices, school leaders should consider the role school organizational conditions play in the link between leadership and teacher motivation and learning.

**Building school-wide capacity for improvement.**

The findings of the third study showed that school leaders changed their leadership practices in the direction of transformational leadership. During the period of our study (2003 till 2008), school leaders had to deal with a renewed inspection framework, in which the intensity and frequency of school inspection is adapted to the student outcomes and the quality of the school self-evaluation (Ehren & Visscher, 2008). To create the conditions for realizing improvement on the indicators of the inspection framework, school leaders have to build school-wide capacity for improvement. Our findings suggest that the context of renewed and more responsive forms of accountability might have stimulated school leaders to show leadership that enhances teachers’ motivation, links teachers’ current needs to the school’s goals and mission, and increases collective cohesion.

Furthermore, the findings indicate that the motivation of teachers hardly changes over time. An explanation for this finding could be the relationship between motivational factors and personality variables. Personality variables can serve as (distal) antecedents of sense of self-efficacy and goal commitment (e.g., Barrick, Mount, & Strauss, 1993; Judge & Ilies, 2002). It can be assumed that it is difficult to enhance teachers’ motivation over time if it is related to the personality of teachers. Like teacher motivation, also teachers’ engagement in professional learning activities barely improved or even became less. Given the facilitating role of teacher motivational factors for teachers’ engagement in professional learning activities (e.g., Geijsel et al., 2009; Goddard, Hoy, & Hoy, 2000; Thoonen et al., 2011a), the lack of improvement of teachers’ engagement in professional learning might be therefore explained by the relatively stable nature of teacher motivational factors we found in this study.
Our findings also suggest that leadership practices, school organizational conditions, and teacher factors differ in the ‘momentum’ on which improvement is shown. In our study, dimensions of transformational leadership increased at the earliest point in time. These findings suggest that improving leadership practices might be an important first step in the process of building school-wide capacity. It might be that improved leadership practices facilitate the improvement of school organizational conditions, foster the enhancement of teachers’ motivation, and promote teacher learning. This underlines the significant role of leadership in school improvement and educational change as it has been often emphasized in the literature (Geijsel, 2001; Geijsel et al., 2009; Heck & Hallinger, 2009; Krüger, Witziers, Sleegers, 2007; Leithwood & Jantzi, 2006; Thoonen et al., 2011a).

Improving classroom practices: the impact of school-wide capacity for improvement.
Based on our findings, it can be concluded that school-level conditions (i.e., dimensions of transformational leadership and school organizational conditions) and teacher-level conditions (i.e., teacher motivational factors and teachers’ engagement in professional learning activities) play an important, but different role in improving teachers’ classroom practices. Whereas teacher factors mainly affect changes in teachers’ classroom practices, organizational factors are of significant importance to enhance teacher motivation and teacher learning. The intellectual stimulation dimension of transformational leadership and teacher collaboration can have strong positive effects on teachers’ professional learning. As found in earlier studies (e.g., Geijsel, 2001; Leithwood & Sun, 2009; Mulford & Silins, 2003; Smylie, 1988; Stoll et al., 2006), by encouraging teachers to question their own beliefs, assumptions, and values, and facilitating opportunities for teachers to work together to solve problems, school leaders can enhance teachers’ engagement in professional learning activities. Furthermore, through the initiation and identification of a vision and the promotion of shared decision-making, school leaders can reinforce the personal and social identification of teachers with the organization. As a consequence, teachers will feel increasingly committed and are more willing to internalize organizational goals and values as their personal goals. This finding emphasizes again the important role of teacher commitment in mediating the effects of organizational factors on teacher learning and teacher change.

Teachers’ classroom practices (i.e., relatedness to students’ world, and cooperative learning) did not improve over a period of three years. One
explanation for this finding might be that it is difficult for schools to build school-wide capacity for improvement. Although it can be concluded that schools are capable to sustain their level of school improvement capacity, our results also showed that schools do not succeed to raise their capacity for improvement to higher levels. Hence, on average, the difference between schools with high and low improvement capacity remained the same throughout the period of our study. Given the relationship between school improvement capacity and the instructional strategies teacher use, it is therefore not surprising that classroom practices have not been improvement since schools’ capacity for improvement remained the same. In addition to the impact of school improvement capacity, also other school- and teacher-related factors not included in our model could have influenced the development of classroom practices. For example, factors such as school size and the particular mix of students, and teachers’ life and career experience, their beliefs about changing their teaching, and their knowledge on general pedagogy (Stoll, 1999, 2009). Besides, it could be that teachers were quite satisfied with their quality of instruction and, consequently, they did not feel a sense of urgency to improve their classroom practices.

Leadership is widely regarded as playing a significant role in school improvement and educational change, especially as it is inspired by the concept of transformational leadership. Results of cross-sectional studies (e.g., Geijsel et al., 2009; Leithwood & Jantzi, 2006; Supovitz, Sirinides, & May, 2010; Thoonen et al., 2011a) show empirical evidence for effects of transformational leadership dimensions on teacher motivation and teacher learning. In addition, longitudinal studies on processes of building school improvement capacity elucidate that leadership develops over a period of time (Heck & Hallinger, 2009; Smylie & Wenzel, 2003; Thoonen, Sleegers, Oort, & Peetsma, submitted). Although our results confirmed the positive effects of transformational leadership practices on the development of teacher factors, our results also showed that teachers’ motivation and engagement in professional learning activities hardly or even not increased. And as we mentioned before, teachers’ instructional behaviour according to constructivist approaches even decreased. This raises the question what other factors may impact the relationship between transformational leadership and teacher motivation and teacher learning.
Implications for future research
Although our findings indicated that building school-wide capacity for improvement seems a major challenge for schools, various questions remain unanswered. In this section we suggest some directions for future research.

The need for validation research
Although a large number of teachers participated in our survey, our sample of schools was limited (N=32). As a consequence, we had to fit multilevel models to teachers’ scores on each of the measurement occasions to examine the development of school-wide capacity and its impact on classroom practices. Future research with a larger number of schools, allowing for multi-level structural equation modeling, could contribute to the testing of more complex models. This may contribute to our understanding of differences between schools concerning the process of building school-wide capacity for improvement. Moreover, a larger sample including a wide variety of schools provides the opportunity to identify latent ‘change trajectories’ (i.e., stable, improving, declining) of individual schools that describe variation of school-wide capacity for improvement between schools over a period of time. Analyzing ‘change trajectories’ of schools may also help to reveal how differences in building school-wide capacity are related to differences in the performance of schools as measured by student outcomes. Information about student outcomes should also be collected to test how school-wide capacity for improvement can affect growth in student outcomes over time, and whether effects persist over time.

Our research project was conducted within the context of elementary education. We assume that contextual factors such as school size, management structure, availability of resources, and the local and broader community (Leithwood & Jantzi, 2006; Stoll, 1999) may influence the process of building school-wide capacity for improvement and the impact on teachers’ instructional behaviour. To test this, comparable studies in other contexts such as schools for secondary education, vocational education and training (VET) sector, should be conducted. Validating our findings in various contexts can provide more information about the generalizability of our findings.

The role of superintendents for capacity building
In addition to the role of school leaders and teachers, research shows that superintendents can also play an important role improving schools. There is some evidence that superintendents can explain differences between schools in
student achievement. A review by Leithwood (2010) of 31 studies on characteristics of school districts which have been successful in improving student achievement provides a synthesis of evidence about characteristics of high-performing districts. Among others, most evidence was provided for district-wide, job-embedded professional development for school leaders and teachers, investing in instructional leadership, the use of evidence for planning, organizational learning and accountability, district-wide focus on student achievement, and approaches to curriculum and instruction. Although these characteristics are based on studies about school districts with a high proportion of disadvantaged, low SES or minority students, these findings provide support for the significance of efforts by superintendents to improve schools. As Leithwood (2010) stated, these characteristics indicate that significant improvements in student achievement depend on significant improvements in the quality of classroom instruction (e.g., Togneri & Anderson, 2003).

It has been clearly shown that leadership, organizational factors, teacher motivation and teacher learning are of significant importance for improving teachers’ classroom practices (e.g., Heck & Hallinger, 2009; Sleegers, Bolhuis, & Geijsel, 2005; Stoll et al., 2006; Thoonen et al., 2011a). Given the relevance of building school-wide capacity for improving the quality of teachers’ classroom instruction, it could be interesting to investigate the role superintendents can play improving schools. To identify effective strategies through which superintendents can support capacity building at school-level, future research could test the contribution of characteristics of high-performing districts as mentioned by Leithwood (2010) to school-wide capacity for improvement. These studies should include large samples of school districts that represent schools with a full range of performance and school improvement capacity (low, medium, and high). Future research should aim to assist superintendents to decide through which paths and mechanisms they can best support school leaders and teachers building school-wide capacity for improvement.

A distributed perspective on leadership
In this dissertation leadership was considered a function of individual knowledge and expertise. Increasingly, scholars use a distributed perspective for thinking about and studying school leadership. A distributed perspective acknowledges that the work of leading and managing schools involves multiple individuals. Hence, from a distributed perspective, leadership practice takes shape in the interaction of school leaders, followers, and aspects of their
situation (Spillane, Halverson, & Diamond, 2004). Leadership, thus, is stressed over the work of multiple leaders. Moreover, the distributed perspective shifts the focus from leaders to leadership practice. From this way, leadership roles, structures and functions are still important, but leadership practice is the vital concern (Spillane, 2006).

In the Netherlands as well as other countries, school leadership is increasingly distributed (e.g., Crow, Hausman, & Scribner, 2002; Spillane, Halverson, & Diamond, 2004). Concerning Dutch elementary schools, school leaders have increasingly distributed their leadership to one or more teacher leaders and a ‘special aid teacher’ by the establishment of a school management team. In our view, nowadays, a distributive perspective on leadership is important to really acknowledge the day-to-day practice of leadership in elementary schools. How leadership practices in elementary schools are distributed across people can vary between schools. Analyzing interactions among leaders in co-performance, Spillane and colleagues have identified three arrangements by which the work of leadership and management is distributed across people (Spillane, 2006; Spillane, Diamond, & Jita, 2003). Collaborated distribution characterizes practice that is stretched over the work of two or more leaders who work together in place and time to co-perform the same leadership routine. Collective distribution characterizes practice that is stretched over the work of two or more leaders who co-perform a leadership routine by working separately but interdependently. Coordinated distribution refers to situations where a leadership routine involves activities that have to be performed in a particular sequence.

Viewing leadership practices in schools from a distributed perspective can provide new insight into how leadership unfolds in the daily life of schools. Up till now, leadership in education focuses on actions of each individual. This perspective on leadership has learned us a great deal about the role leadership practices as vision building, individualized support of teachers, and intellectual stimulation for teachers can play in capacity building for improvement. To acknowledge the day-to-day work of leaders, future research should investigate these leadership practices from a distributed perspective. Data about the co-performance of these leadership practices (e.g., school management teams) can enable us to estimate the prevalence of different arrangements by which vision building, individualized consideration and support, and intellectual stimulation are distributed across people. This may provide new and useful insight into how leadership unfolds in the daily life of schools: how do leaders co-perform leadership practices as a management team in school?
Furthermore, we need more empirical studies on distributed leadership that interrogate the relationship between arrangements of distributing leadership practices and capacity building for school-wide improvement. Distributing leadership does not automatically result in more school improvement capacity; not any arrangement is inherently good and types of distribution are not mutually exclusive (Spillane, 2006). Much depends on the way in which leadership is distributed, how it is distributed and for what purpose (Harris, Leithwood, Day, Sammons, & Hopkins, 2007). Moreover, it depends on the growth state of the organization, its readiness to change, its culture and its developmental needs (Harris, 2008). It is clear that various types of distributing leadership practice can influence organizational change and development (Leithwood, Mascall, Strauss, Sacks, Memon, & Yashkina, 2007). The existing empirical studies we have are still not extensive, fine grained or detailed enough to offer deep insights into the relationship between distributed leadership and school organizational conditions, teacher motivation and teacher learning. We need to know much more about the nature and extent of the influence of distributed leadership on building capacity for improvement and, in the end, on improved classroom practices.

**Antecedents of teacher motivation**

Motivated behaviour of teachers, including professional learning and teaching behaviour, is positively influenced by motivational factors. Motivational factors typically comprise an expectancy, value, and affective component. We conceptualized the expectancy component as teachers’ sense of self-efficacy (Bandura, 1997), the value component referred to teachers’ internalization of organizational goals and values as personal goals (Leithwood, Jantzi, & Steinbach, 1999), and the affective component was conceptualized as the way teachers deal with uncertain situations (Sorrentino & Short, 1986). In accordance with the growing body of knowledge (e.g., Geijsel, Sleeers, Leithwood, & Jantzi, 2003; Leithwood & Sun, 2009; Jongmans, Sleeers, Biemans, & de Jong, 2004; Sleeers et al., 2005; Smylie, Lazarus, & Brownlee-Conyers, 1996), findings of the second study of the present longitudinal survey point out that leadership practices and school organizational conditions (i.e., teacher collaboration and participative decision-making) are positively related to teachers’ sense of self-efficacy and teacher commitment. Outcomes of our fourth, longitudinal study confirm these findings: it has been found that leadership practices and school organizational conditions can explain variation in teacher motivation *over time*. Teacher motivational factors, however,
remained relatively stable and thus hardly changed over time. Other factors than leadership and school organization could also have an impact on change in teacher motivation. It has been suggested that personal characteristics such as cognitive ability, experience and personality traits (Judge & Ilies, 2002; Judge, Jackson, Shaw, Scott, & Rich, 2007), and classroom characteristics like class size, concentration of students, and academic heterogeneity (Smylie, 1988) are related to motivation. Future studies should also examine the impact of factors like personal and classroom characteristics on change in teachers’ motivation. Findings of these studies can gain insight into antecedents to change in teacher motivation, and may provide an answer to the question how change in teacher motivation can be established.

Implications for the practice of school leaders and superintendents
This dissertation offers insights in building school-wide capacity for improvement and the effects on the quality of teachers’ instruction and students’ motivation to learn. We elaborate on some implications of these insights for school leaders and superintendents.

Utilizing data to build school improvement capacity
Schools are expected to have the capability of developing their own system of quality assurance through self-evaluation (Ehren, Leeuw, & Scheerens, 2005). Quality assurance is an umbrella concept which covers all activities undertaken to investigate, monitor and improve the quality of schools. Two perspectives can be distinguished in the area of quality assurance: the accountability perspective and the school improvement perspective. The distinction between these two perspectives is based on different answers to the questions of (1) whether quality assurance is primarily concerned with monitoring and accountability or rather with development and improvement and (2) who determines quality of education, in other words: the government or the school itself (Vanhoof & van Petegem, 2007). In the dominating accountability perspective school self-evaluation is mainly externally directed and focused on the achievement of predetermined objectives as established within the inspectorate’s framework. Up till now, school self-evaluation for improving the quality of education is not something obvious. In accordance with the school improvement perspective, we therefore assert that schools gather data about outcomes and processes defined by the school itself for improving the quality of education. Quality assurance should be focused on differences among teaching staff and the intention should be to initiate a dialogue about the data and the desired educational quality. If
teachers reflect on data and talk about data with colleagues, they become aware of the issues and problems related to the educational quality. This may stimulate a sense of urgency to improve their classroom practices. It can be assumed that, consequently, teachers will be more motivated to obtain the goals as formulated in action plans. In this way, the utilization of data can foster building school-wide capacity for improvement.

Although the utilization of data can enhance school improvement capacity, data about leadership practices, school organizational conditions, teacher motivation or teacher learning are seldom gathered by school leaders. Data about these factors at school- and teacher-level can indicate to which extent schools possess of the school-wide capacity to work on the improvement of classroom practices and student outcomes. Furthermore, information about school improvement capacity can explain for what reasons the educational quality doesn’t meet the school internal or inspectorate’s requirements. Given the significant role of school-wide capacity for improvement, we assert that school leaders use instruments such as the Dutch School Improvement Questionnaire (Thoonen et al., 2011a) to gain insight into those factors at school and teacher-level that appear conditional to change teachers’ classroom practices and to improve students’ motivation. Data about school improvement capacity, in our view, are thus a prerequisite for improving schools.

_The engagement of superintendents in building school improvement capacity_

The findings from the present studies stress the importance of building school-wide capacity for improvement to improve teachers’ classroom practices. We therefore recommended that school leaders gather data about leadership practices, school organizational conditions, teacher motivation and teacher learning, to gain insight into the school improvement capacity. From our perspective, superintendents should encourage and support school leaders to gather data about these conditions for school improvement to gain insight into the school-wide capacity for improvement. For this purpose, it is a prerequisite that school leaders are made aware of the significance of building school-wide capacity for improving classroom practices at their schools. Superintendents can take this role by, for instance, informing school leaders about the concept of building school-wide capacity for improvement and its relationship with the improvement of classroom practices, offering school leaders tools to assess the school improvement capacity, and providing them support to become data literate. These activities can increase the understanding of school leaders of the
concept and their willingness to be involved in school-wide capacity for improvement.

The findings of our studies point out that transformational leadership behaviour of the school leader should be considered a key factor for improving schools. Transformational leadership practices can have positive effects on school organizational conditions, teacher motivation and teacher learning. Given the role dimensions of transformational leadership practices play in school improvement, we recommend that superintendents continuously encourage school leaders to develop their leadership practices toward transformational leadership behaviour. For instance, transformational leadership development programs could be initiated and facilitated by superintendents. To be effective, such leadership development programs should feature research-based content, a coherent curriculum, problem-based learning methods, field-based internships, and opportunities for collaboration (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005). In addition to leadership development programs, we suggest that school leaders can make use of coaching trajectories. Coaching trajectories connect intellectual work with practical work under the guidance of an expert practitioner who can model good practice, coach another practitioner, ask probing questions to guide reflection, and provide feedback to guide the development of practice. In particular coaching might be effective as a sizeable body of research suggests that most adults learn best when exposed to situations requiring the application of acquired skills, knowledge, and problem-solving strategies within authentic settings, and when guided by critical self-reflection (Davis et al., 2005).