Developing teacher leadership and its impact in schools

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CHAPTER 6
Discussion and conclusion

In this final chapter, we will summarize the findings of the research project and answer the overall research question that was formulated in Chapter 1 (section 1, 2 and 3). Next we will discuss how the outcomes have deepened our understanding of effective post-initial learning arrangements that both contribute to professional development of teachers and to development of schools (section 4). In section 5 we will discuss how the outcomes contributed to an enriched understanding of how teacher leadership can be developed within schools. After discussing the limitations of the research design and presenting topics for further research (section 6), we will conclude this chapter with the implications of our research for schools, universities, teachers and national educational policy.

1. Introduction
Given the complexity of education and the changing expectations of society towards education, schools need to be responsive to the needs of parents, employers and society and to innovate their teaching accordingly. Successful school improvement is dependent on schools’ capacities to manage change and development. As teachers are key actors in schools, this change capacity of schools can be increased by using and supporting the change capacity of teachers. The change capacity of teachers can be understood as the capacity of teachers ‘to - individually or collectively, through development, inspiration, and research - provide direction and exert influence on their colleagues, school leaders, and other school community members to improve teaching and learning practices that enhance student learning and achievement’. This capacity which we indicate as ‘teacher leadership’, requires specific skills and knowledge. To increase change capacity in schools and to strengthen teacher leadership, teachers need to develop their capacity for methodically designing and managing innovations and study the impact of these innovations (Van der Klink, 2012, p25).

According to Van der Klink (2012) and Boonstra (2000), innovation coincides with learning. This claim implies that teachers’ professional development can be considered both a condition and a catalyst for successful innovation, and that participation in school development and innovation processes can contribute to teachers’ professional development. The aim of this research
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project was to gain insight into the relation between learning arrangements that aim to support the development of teacher leadership and processes of school development. The impact of such learning arrangements on school development cannot be taken for granted, as the relationship between engagement in such learning arrangements and the impact, in terms of school development or pupil learning outcomes, is complex and not straightforward. The steps from engagement in learning arrangements, to development of teacher competences, to behavioral changes of teachers within schools, and finally to school development and improved pupil outcomes depend on factors related to program design, personal qualities, and school contexts (Baldwin & Ford, 1988; Boshuizen, 2003; Gielen et al., 2004; Van der Klink, 2012).

To increase our understanding of the complex relation between the design of specific learning arrangements for teacher leadership and their impact in terms of teacher development and school development, our main research question was the following:

To what extent and in what way do post-initial learning arrangements that focus on teacher leadership contribute to teacher development and school development?

2. Three prototypical learning arrangements for teacher leadership

The design of post-initial learning arrangements for teacher leadership is based on implicit and explicit educational theories, the wider policy context, and societal trends and developments. To identify learning arrangements that could be the context for this study, we needed to answer the first research question:

1. What trends in society and education influence the design of teachers’ learning arrangements and what is their impact on the dynamics between schools and universities?

To answer this research question, we analyzed 48 documents that present alternative scenarios on the future of (teacher) education. This analysis revealed key international trends that might impact the design of learning arrangements for teachers’ post-initial learning. Through the analysis of these scenario documents, four prototypical scenarios for teacher education could be identified, which vary with respect to the roles of key stakeholders in the educational system - governments, schools, and universities – and the way in which boundary between their activity systems were crossed. Three of these scenarios can be recognized within Dutch arrangements for post-initial teacher development.

The *market-oriented scenario* is a scenario in which learning arrangements are the result of a customer-provider relationship. In this scenario, the school
is the dominant activity system. The key focus is meeting the needs of the school as a customer. Universities must be responsive to these needs and compete with other educational providers to offer their services to schools. The Ministry has a limited role, mainly focusing on guaranteeing a level playing field between different stakeholders. Within a market-oriented scenario, learning arrangements for teachers are school centered. Within the Dutch context, such learning arrangements can be recognized in many school-wide post-initial arrangements for teacher development. In these arrangements, schools define learning arrangement content and hire providers. In Intermezzo 1 and Chapter 3, we connected the Academic Development School to this scenario as a school centered context for developing teacher leadership. Although these Academic Development Schools are typically based on partnerships between schools and universities, schools are the dominant actors, defining research topics, structure, arrangements, and criteria for selecting and evaluating teachers, while universities’ roles are limited to supporting the development of teachers’ research competence. For this reason, this arrangement can be defined as ‘school centered.’

The bureaucratic scenario is a scenario in which the government activity system and national policy making are dominant, defining the playing field for the other two stakeholders. As a result, schools and universities are focused on formal quality requirements set by the government. Within the Dutch context, formal university qualification programs have to meet government requirements set by the Dutch-Flemish Accreditation Organization (NVAO). Internal quality procedures for Master’s programs are strongly focused on meeting these criteria. In Intermezzo 2 and Chapter 4, we connected the Master’s program Professional Meesterschap (Professional Mastery) to this scenario. Although secondary education institutions initiated this Master’s program in teacher leadership, school involvement and commitment were limited. As a result, the formal criteria for higher education programs, defined by the Ministry and the NVAO, dominated the design of the program. The schools did not express explicit expectations for the program aims, content, or design, resulting in a university-centered learning arrangement.

The network scenario is a scenario in which boundaries between the school and university activity systems are crossed. In a boundary zone between the school and university, representatives from both activity systems meet and work together, stimulating expansive learning in both activity systems. In Intermezzo 3 and Chapter 5, this scenario is connected to the redesigned Master’s program in teacher leadership, Professioneel Meesterschap. Based on the outcomes of the case study reported in Chapter 4, the program was redesigned such that boundary crossing between school and university activity systems was intensified. By explicitly defining the intended outcomes in terms of individual professional development (i.e., qualification) and contributions to a reformed school agenda (i.e., intervention), both activity systems are actively engaged in
the design of the program and in monitoring its progress and outcomes. As a result, the learning arrangement is partnership centered.

The fourth scenario, the *professionalism scenario*, in which professional groups play a key role, was not considered a possible prototypical context for studying the impact of teacher leadership learning arrangements. The main reason for its exclusion is that such arrangements are not yet common. Existing arrangements that are offered by professional groups largely focus on developing subject expertise, domain specific expertise and subject methodology expertise, offered by subject teacher associations. On a small scale, bottom-up initiatives focusing on teacher leadership emerge in small communities of innovative teachers, such as *Leraren met Lef* (Teachers with Courage), *Onderwijspioniers* (Educational Pioneers), *the Crowd*, and *Meesterschappers*. Learning arrangements offered and managed by professional groups might become more common when the national professional body of teachers, de *Lerarencoöperatie*, takes a more prominent role in professional development of teachers, e.g. through a wider implementation of the register for teachers. When the formal requirements for registration gain wider implementation, teacher bodies might offer and manage a wider variety of learning arrangements which might also include arrangements for developing teacher leadership.

The analysis of the scenario documents reveals that the future for teacher education is largely defined by the extent to which key stakeholders and their activity systems are open to boundary crossing and the willingness of these stakeholders to cross or remove institutional boundaries.

3. **Summary of the outcomes of the empirical studies**

Chapters 3, 4, and 5 presented three empirical case studies examining the impact of post-initial learning arrangements on teacher development and school development. Through these studies of learning arrangements in different contexts, we developed a deeper understanding of the conditions that increase or decrease the impact of these learning arrangements.

3.1 **Impact of leadership development within Academic Development Schools**

In Chapter 3, the first reported case study aimed to answer the second research question:

2. To what extent and in what way do learning arrangements within an academic development school contribute to teacher and school development, and which aspects of school culture and school organization play a role in this contribution?

In the academic development school that was the context for this case study, the main focus of the arrangement was on research projects that contribute to
school development. The contribution to teacher development remained rather implicit, with an emphasis on developing research skills. There were no explicit criteria or explicit assessment procedures. Nevertheless, teacher researchers reported learning outcomes at several levels. Through their specific research topics, teacher researchers developed expertise that they could use to improve work practices within their schools. At a personal level, they also developed stronger self-efficacy in conducting research. At the same time, engagement in research projects enhanced professionalism and leadership qualities, as it contributed to teachers’ development of a critical stance toward existing school practices. Teacher researchers developed an increased professional distance and the ability to view issues from different perspectives. This experience increased their awareness of schools as complex organizations and of the role of management; teacher researchers also developed their sensitivity to the school’s vision and educational concept. They learned to identify how research could benefit classroom innovation and how their own passions, competences, potential, and colleagues’ qualities could contribute to innovations. These findings illustrate that the engagement of teachers in research projects can contribute to changes in work and leadership practices at school.

The study also reveals conditions within the school’s organizational structure and culture that can support the impacts of research projects at the wider school level:

- Collaborative work in research teams;
- Shared ownership of teacher researchers and school management;
- A combined focus on research, design, and implementation;
- The need for recognition and a platform to share the outcomes of research projects with colleagues;
- Room for a new dynamic within the school that is based on focus, reflection, and careful analysis.

These conditions are similar to the conditions that Admiraal, Smit and Zwart (2013) found in their recent review study on teacher research in schools. Based on an analysis of 30 publications, the authors extracted five key recommendations to improve the impact of research conducted by teachers. These recommendations focus on the time and space that are available for teacher research, collaboration between teachers, support and commitment from school management, connecting research themes to work practices in school, and the freedom to define research themes and designs.

3.2 Impact of leadership development and organizational transfer climate

In the second case study (Chapter 4), the third research question was answered:

3. To what extent and in what way does a formal Master’s program in teacher leadership contribute to teacher development, new teacher leadership roles, and school development, and which elements within the organizational transfer climate of the school stimulate or hinder these developments?
The focus of this case study was a Master’s program in teacher leadership. Based on the outcomes of the previous study, which emphasized the importance of organizational structures and cultures, the second case study focused on the organizational transfer climate of the school and how it stimulates or hinders a formal Master’s program in teacher leadership to contribute to teacher development, new teacher leadership roles, and school development.

This study demonstrated that in the context of a Master’s program in which teachers participated on an individual basis, the impact of the program on individual teacher development can be significant. Master’s teachers developed a stronger awareness of pupils’ individual needs and a deeper understanding of teaching and learning theories. They developed a more critical and analytical attitude toward assumptions and practices in their school; they felt more confident in research activities and tended to include inquiry into processes of curriculum change and innovation. They also developed a broader perspective on school organizations and development. They became more proactive and entrepreneurial. Most participants indicated that they gained more confidence in addressing, supporting, inspiring, or convincing their colleagues.

The teachers developed a strong motivation to use these new qualities within their teams and the schools as a whole. However, the opportunities to use their leadership qualities outside their classrooms and to contribute to team and school development depended on the extent to which aspects of the organizational transfer climate - such as strategic alignment, situational cues, use opportunities, and support from supervisors and peers - were supportive. When these aspects were supportive, the teacher leader and supervisor created a strategic partnership. If these aspects were not supportive, the teacher leaders became isolated and frustrated and in some cases even decided to move to another school.

These findings confirmed the importance of the organizational transfer climate as a condition for effective transfer (Baldwin & Ford, 1988; Boshuizen, 2003; Gielen et al., 2004; Van der Klink, 2012). However, these conditions are not fixed characteristics of the context of a given school. The aim of the Master’s program Professioneel Meesterschap was to provide participants with tools that can help them claim positions and contribute to changes in the school’s transfer climate. As a result, teacher leaders themselves can influence the organizational transfer climate. However, when teacher leaders are isolated within their schools and the school management, supervisors and colleagues are not responsive, teacher leaders will find it difficult to make a difference. School cultures are persistent, and when a single isolated teacher leader, changed by engagement in a Master’s program, returns to an unchanged working environment, frustration risks are significant. When there is no strategic alignment between the school’s reform agenda and the aims of the Master’s program and when the Master’s program participant is the only boundary crosser in the school, a Master’s program in teacher leadership may have an
impact at the individual professional development level, but the impact at the school development level will be limited. In such schools, the Master’s program is considered a tool for personal professional development, not a tool for school development.

The outcomes of this study initiated a rethinking of the Master’s program using the concepts of activity systems and boundaries. The Master’s program can be understood as a boundary zone, creating a space for expansive learning through boundary activities that bridge the activity systems of the school and the university. This perspective helped in redesigning the Master’s program by stimulating boundary-crossing activities, aiming for the maximum impact at school, and redefining the roles of university representatives and local school representatives in developing and running the program.

3.3 Impact of leadership development and boundary crossing

The third case study (Chapter 5) focused on senior teachers from three vocational education colleges who enrolled in the redesigned Master’s program, Professioneel Meesterschap. Based on the outcomes of the second case study as reported in Chapter 4, six design principles have been formulated for Master’s programs that intend to stimulate expansive learning by increasing boundary crossing between the university and the workplace. These design principles focus on the design process (1 and 2) and the program itself (3 to 6):

1. Strategic alignment between the school’s reform agenda and the aims of the Master’s program
2. Shared ownership by the university and the school
3. A strong connection between program content and school issues
4. Collectivity: engaging several teachers from one school in the program
5. Engagement of school supervisors in boundary-crossing activities
6. Engagement of university teachers in boundary-crossing activities

With these design principles, the Master’s program Professioneel Meesterschap was redesigned in close cooperation with human resource development (HRD) stakeholders in the colleges for vocational education. From these three vocational schools, 42 teachers who were appointed as ‘senior teacher’ participated in the new program. This redesigned Master’s program was the focus of the third case study. The key question for this study was the following:

4. To what extent and in what way can an educational design that focuses on boundary crossing between the activity systems of the school and the university strengthen the impact of a Master’s program in teacher leadership on teacher development, new teacher leadership roles, and school development?

The study revealed that senior teachers developed their knowledge, competences, skills, and sense of self-efficacy with regard to teaching,
learning, organization, and innovation. They indicated a strong development of their sensitivity to organizational processes and processes of change, and they developed their research and analytical skills. Moreover, they developed an inquiring attitude, a helicopter view, and awareness of the wider school context. Although there was little change in the formal tasks of the 42 senior teachers who participated in the Master’s program, these new qualities helped change their work performance. Both senior teachers and their supervisors reported that senior teachers performed their tasks differently, assuming new roles by applying a deeper understanding of teaching and learning theories; a wider perspective of their team, curriculum and organization; a more inquiring attitude; a stronger focus on sharing knowledge; and stronger self-confidence and authority. They were able to provide direction and exert influence toward their colleagues and teams, toward their supervisors, and, collectively, toward management and staff at the school level.

Through these new performances, the senior teachers made an impact on work practices at the team or unit level. This impact was reflected in new curricula, new didactic approaches, new tools and instruments, and in the way the teachers were role models for their students. The senior teachers were also able to influence leadership practice within the school by contributing to team self-awareness, a stronger proactive team attitude, a stronger focus on team learning, and a greater openness to research, data, and theory. On several teams, there was an increased focus on sharing knowledge and more intense discussions on teaching and learning. Through their leadership roles, the senior teachers were able to contribute to favorable conditions for teacher leadership as they addressed internal boundaries, created more room for teacher’s agency within self-steering teams, and contributed to a culture in which teacher leadership could flourish.

The respondents’ overall impression was that the Master’s program and the context in which the senior teachers were placed created strong impulses within schools, contributing to both personal development and a wide variety of instances for school development. The study also revealed that of the six design principles that were supposed to strengthen boundary crossing between university and school, three principles were decisive in explaining the impact of the program. The alignment of the Master’s program with the schools’ strategic ambitions ensured a productive context for the senior teachers’ initiatives. This productive context was strengthened by the way in which their formal positions as senior teachers were integrated within a wider system of teacher profiles. In addition to strategic alignment, the shared ownership by university and school stakeholders was also considered an important design element. This shared ownership was manifest in the monitor group that evaluated progress and, based on these evaluations, suggested program adaptations.

The collectivity of the Master’s program proved a strong lever for a shared awareness of senior teachers’ roles at all school levels. The strategic
management, administrative units, department heads, and teachers could not ignore the existence of a new group of teacher leaders within the schools. For the group of senior teachers, the program contributed to a strong collective self-awareness of their role and contribution to the school.

Although the outcomes revealed that the design of the Master’s program was effective in developing and implementing teacher leadership within the schools, elements in the design could still be improved. The shared feeling of ownership that was experienced within the monitor group was not widely spread, as supervisors of the senior teachers did not feel connected to the design and monitor process, indicating the existence of internal boundaries in vocational schools. Supervisors’ involvement in boundary-crossing activities was limited, as effective boundary objects appeared to be missing. The lectures of the Master’s program were intended as boundary objects, but the invitation to supervisors to join lectures did not actively engage them in further dialogues, as supervisors, senior teachers, and university staff were not challenged to work together. Another design limitation was that boundary crossing of the university teachers was limited to their engagements with the participants. For university teachers, their main focus was on supporting professional development of individual participants. They did not see an explicit role for themselves within school development processes, nor an opportunity for expansive learning within the university. A boundary object that could engage them more actively in discourses with supervisors and that could provide a more detailed understanding of issues and performances at both the school and the university was missing. For follow-up improvement of the impact of the Master’s program, further research would be useful on designs for effective boundary objects in which participants, supervisors and university teachers engage in a shared dialogue where contexts and dilemmas are explored collaboratively.

4. Learning arrangements that support professional development and school development

The three empirical case studies contribute to a deeper understanding of learning arrangements that focus on teacher leadership and the way in which such learning arrangements contribute to individual professional development, improved leadership performance at the workplace, and school development. Based on this deeper understanding, we will draw wider-ranging conclusions for the design of learning arrangements for teachers in the following sections.

4.1 Mental models based on transfer

One key conclusion that we can draw from these case studies is that the debate on learning arrangements for teacher development is dominated by the metaphor of transfer. In this metaphor, the activity systems of universities and schools are separated. Teacher development is considered a unidirectional process that is based on a replicative conception of learning (Bransford &
Developing Teacher Leadership and its Impact in Schools (Schwartz, 1999; Hager & Hodkinson, 2009) and is disconnected from complex contextual factors that influence the dynamics of activity systems (Engeström, 2001). In this metaphor, knowledge provided in one context must be applied in another context. Although the transfer metaphor is often used to address the lack of an impact of learning arrangements on changes at the workplace, the use of metaphor itself might actually emphasize the separation of the two contexts. Through such a separation, professional development and school development might be considered as two separate issues: professional development as a problem for the university teachers who might see learning arrangements as a rational design, relating any outcomes directly to the learning arrangement, ignoring personal and institutional contexts; and school development as a management issue for school managers, reducing teachers to ‘mere pawns on their chess board’ (Leeman & Wardekker, 2013, p.35).

This separation ignores the need of a ‘theory of improvement’, an explicit understanding of how professional development activities contribute to school improvement and improved learning outcomes of pupils (Van Veen et al., 2010; Wayne, Yoon, Zhu, Cronen, & Garet, 2008) and which combines a theory of pedagogy and a theory of change (Elmore, 2003; Fullan, 2012).

This separation is deeply rooted in the educational system. Accreditation criteria for university programs focus on the individual learning outcomes of participants, not on the impact at the workplace. Within the structure of the teaching profession, the implicit assumption is that teachers graduating from initial teacher education have acquired all necessary competences to assume full responsibility for teaching children and no additional qualifications are needed. When starting teachers fail to meet these expectations, the university as the context for initial teacher education is blamed. Within the Master’s program that was studied in the third case study, this separation can be recognized, as both university teachers and some HRD school stakeholders continued referring to the traditional transfer metaphor. They emphasized that the Master’s program should empower senior teachers such that they would be able to initiate school reform and provide leverage against supervisors who are not responsive to teacher leadership. When these senior teachers are not able to initiate change, the implicit suggestion was that the university had failed in providing them with the appropriate tools.

The separation between learning and application also creates a hierarchy in which knowledge and theory hold a higher status than application; in which academic research is considered more important than practice-oriented research; and in which academic universities enjoy a higher status than universities of applied sciences. In the Netherlands, the dominant market model in post-initial teacher development arrangements is another example of how roles and responsibilities are separated, as teacher development is considered something that can be bought from a provider. This model results in universities that push their post-initial education into commercial and profit-oriented companies, thus reducing the universities’ opportunities to engage
in school development and to connect this school development with teachers’ lifelong professional development.

To strengthen the connection between professional development and school development, strong and close partnerships must be created between universities and schools. These partnerships must be based on equality and perceive university teachers and school stakeholders as partners in both learning and innovation. In the Netherlands, school-university partnerships that have been built within the context of initial teacher education appear to be fruitful contexts for such a new equality. However, the international analysis of partnerships in the context of Professional Development Schools reveals ‘a growing recognition that these partnerships are inefficient in establishing new collaborative cultures and in many cases they even preserved the old hegemonies of the involved institutions’ (Gorodetsky & Barak, 2008, p. 1907).

Even within such partnerships, transfer-based mental models dominate; the focus is the student teachers’ initial qualifications, and schools still primarily serve as practice fields for pre-service teachers (Gorodetsky & Barak, 2008). Within such partnerships, the university is still considered the ‘expert’, and the partnership is not used for school or university innovation, as each institution continues to maintain its own culture and unique discourse.

To increase the impact of learning arrangements on school development, we need to abandon segmented mental models in which teacher development and innovation are considered different and sequential tasks. We need to ‘understand continuity and transformation in learning as an ongoing relation between changing individuals and changing social contexts’ (Beach, 1999, p. 103) and design learning arrangements accordingly. Such arrangements require the growth of a new culture based on boundary-crossing activities with actors from different systems interacting and engaging in knowledge activities ‘as border crossers, as people moving in and out of borders constructed around coordinates of difference and power’ (Giroux, 1992, p. 29). When we want to stimulate engagement in boundary-crossing activities, dominant mental models must be challenged. This challenge can create room for expansive learning as a mutual process, in which participants from different activity systems reconstruct their own context.

4.2 Expansive learning and the quality of boundary objects

The boundaries between schools and universities can cause discontinuity and problems in school-university interaction. At the same time, boundaries and boundary crossing can be a powerful sources for expansive learning; participants develop their knowledge, competences, and skills, but they also reconstruct their own context to resolve discontinuities (Engeström, 2001). Applying Engeström’s activity theory to teacher learning, Tsui and Law (2007) illustrate how this theory can be used to understand the interaction dynamics between university teachers, school mentors, and student teachers. However, their study provides no guidelines and conditions for effective boundary objects and expansive learning. In this research project, we attempted to identify
conditions for expansive learning and for connecting professional development and school development. We explored three approaches to gain a deeper understanding of the boundary-crossing process and how this process can contribute to solving discontinuities between universities and schools.

The first approach was to strengthen the mutual involvement of schools and universities in designing learning arrangements. A close relationship between the aims of the learning arrangement and the school's reform agenda is essential in creating a context in which professional development and school development are aligned. Next to an alignment of aims, there is also need for a shared theory of improvement through which both school and university share an understanding of how professional development contributes to school development. By creating external curriculum consistency, conditions are set for a shared understanding and fruitful interaction between stakeholders within the boundary zone that is created by the learning arrangement. This shared understanding must include stakeholders at different levels: strategic management, teachers, and supervisors.

The second approach was to strengthen the position of the boundary crossers. Boundary crossers have a rich and valuable position because they take part in both activity systems; however, they also have a difficult position because they often operate on the periphery of the two systems, belonging to or accepted by neither system (Akkerman & Bakker, 2011). The third case study showed how engaging a larger group of boundary crossers and establishing an explicit senior teacher position at schools helped boundary crossers contribute to expansive learning and actively reconstruct their schools' activity systems.

The third approach was to create boundary objects within these learning arrangements that could engage stakeholders in a shared discourse through which contextual differences are explored and collective learning can be achieved (Carlile, 2004; Star, 1989). Several boundary objects appear effective in stimulating expansive learning: the writing and discussion of future scenarios (Chapter 2), involvement in research projects (Chapters 3, 4 and 5), and shared monitoring groups that evaluate and adjust the learning arrangement (Chapter 5). These boundary objects are effective in engaging different stakeholders and stimulating meaningful discourses. Inviting supervisors to join guest lectures did not prove to be an effective boundary object, as the context of guest lectures did not provide supervisors with opportunities for active engagement in shared and meaningful dialogues.

The boundary zone and its boundary objects create opportunities for boundary learning. Akkerman and Bakker (2011) identify four possible mechanisms for boundary learning: (1) Identification, in which lines of demarcation between practices are redefined and a renewed understanding is created for how separate practices are delineated from each other; (2) Coordination, in which new ways of effective cooperation are identified and work is distributed
efficiently across practices; (3) \textit{Reflection}, in which separate practices learn from each other and in which perspectives from one practice are used to redefine other practices; and (4) \textit{Transformation}, in which practices are profoundly changed and in which boundary learning may lead to the creation of new hybrid in-between practices. This last mechanism can be compared to Engeström’s concept of expansive learning.

According to Akkerman and Bakker (2012), these mechanisms can manifest themselves at organizational as well as individual levels. In all three case studies, the learning arrangement facilitated a transformation at the individual level, as teacher researchers and participants in Master’s programs developed new identities as teacher leaders. At the organizational level, the boundary learning mechanism varied. For some participants in the second case study, the boundary learning at their school was limited to identification, as clearly defined roles and responsibilities were set and confirmed, largely reflecting existing hierarchies between teachers and supervisors and leaving little room for informal leadership roles. In some schools, boundary learning was extended to coordination, as strategic partnerships were developed between Master’s teachers and supervisors seeking an effective combination and synergy of formal and informal leadership roles. In the third case study, boundary learning resulted in transformation, as new leadership practices were being developed within the schools, leading to new organizational identities of the schools.

Akkerman and Bakker (2012) indicate that further research should focus on cultures and conditions that are supportive to boundary crossers. The third case study showed that three approaches – mutual involvement in the design of the learning activity, strengthening the position of the boundary crosser, and effective boundary objects – proved powerful in supporting teacher leaders who act as boundary crossers, generating expansive learning within the schools and linking individual professional development with school development.

\subsection*{4.3 Expansive learning within the university}

In the previous section, we emphasized the impact of expansive learning on both individual professional development and school development. In the case studies, little attention was paid to the potential impact of boundary crossing activities on universities. We, as researchers and university teachers, were focused on the impact of the learning arrangements on schools. In all three case studies, mutuality and reciprocity were limited, as the implicit aim was for the university to support teachers in contributing to school changes. Aiming for change within the university was not ‘part of the deal’.

However, in boundary-crossing processes, expansive learning can take place within both activity systems. Using the metaphor of boundary crossing, more attention can be given to the potential reciprocity of boundary learning. Within the university, discussions on the outcomes of this research project have strengthened awareness of the need for other mental models. The way in which
the findings from the second case study stimulated the adaptation of the Master’s program toward a partnership model illustrates the responsiveness of the university to expansive learning.

However, the transfer metaphor is still strongly engrained in the approaches of university teachers. University teachers are expected to support their Master’s students in meeting the criteria for a Master’s qualification. As a result, university teachers’ dominant focus is individual professional development. University teachers recognized the third case study’s strategic alignment between school and university, linking program aims and schools’ innovation agendas, but they still understood their role in supporting senior teachers so that senior teachers could be effective in initiating change within their schools. The university teachers emphasized that the Master’s program should empower senior teachers, enabling them to provide leverage against supervisors who are unresponsive to teacher leadership. In this mental model, the participants in the Master’s program are considered the sole boundary crossers, change agents and mediators between university and school.

Except for the monitor group meetings, university teachers only engaged in dialogues with senior teachers, not with other school representatives. University teachers were reluctant to what they considered ‘mingle in school matters.’ However, as a result, they had little first-hand knowledge of the context and issues within the senior teachers’ schools or how senior teachers performed at their workplace. Within the design of the program, boundary objects were missing that could bring together senior teachers, supervisors, and university teachers in a shared discourse, e.g., in learning communities that focus on complex problems and allow each participant to contribute on an equal basis. To create such discourse university teachers need to be able to step out of their dominant roles as ‘teachers’ and consider themselves as ‘learners’ as well.

Partnership-based learning arrangements that aim to stimulate expansive learning will need a mindset that is fundamentally different from learning arrangements that fit within bureaucratic or market scenarios (Mitchell & Alexandrou, 2011). In partnership-based Master’s programs, strategic alignment, shared ownership, and equal collaboration between participants, supervisors, and university teachers are not just design criteria or conditions for increasing the impact of the program; they are also fundamental elements in our understanding of how expansive learning can generate change within both activity systems. This expansive learning can link individual professional development, school development, as well as university development.

4.4 Bureaucratic, market, or network scenarios for teacher development

In this research project, we observed different prototypical arrangements for teacher development: a school centered design, a university centered design, and a partnership centered design; we also observed their contributions to teacher development and school development.
The potential impacts of the learning arrangements on professional development of the teachers who participated in the three studies are similar. The differences between the three contexts revolve around the three following elements.

The first element is the explicitness of learning outcomes. In the first case study, learning outcomes remained rather implicit, as there were no explicit learning aims formulated and no formal assessment provided. This implicitness makes it difficult to share learning outcomes with colleagues and supervisors within the school. Given the similarity in learning outcomes that have been reported between the three groups, the academic development school’s learning outcomes could be formally recognized through an additional assessment and be credited as part of a Master’s qualification. Making implicit learning outcomes more explicit could help teacher researchers share those learning outcomes with colleagues, contributing to a stronger position of teacher researchers.

The second element is schools’ commitment and the alignment between the learning arrangement and the school reform agenda. This alignment was strong in the first and third case studies but weak in the second case study.

The third element is the way in which the learning arrangement was embedded in a wider ‘strategic human resource development policy’ (Schramade, 2011; Van der Klink, 2012) that connects innovation aims, human resource development and human resource management. Again, this element was present in the first and third case studies, in which teachers were positioned as teacher researchers or senior teachers. This explicit position made teachers more visible, recognized, and accepted as brokers between different activity systems.

The fourth scenario that was identified in Chapter 2 - the professionalism scenario - was not represented in the case studies, as no structured teacher leadership learning arrangements managed by professional groups exist. However, such arrangements may develop in the future when the professional body of teachers gains a stronger position within the educational infrastructure. Such arrangements can be powerful instruments for teacher learning, as the profession itself manages these arrangements. By taking control over its professional development, the profession strengthens its autonomous voice and professionalism. However, self-control of the profession over its professional development arrangements, might distance this professional development from local school development. Our case studies revealed the importance of linking these two types of development and of focusing on expansive learning across boundaries. Learning arrangements that professional groups offer must be embedded in the school’s strategic agenda through external curriculum consistency. They require strong positions for learning arrangement participants as boundary crossers within the school. They also need to employ boundary
objects that can engage different stakeholders within the school in a shared discourse through which contextual differences are explored and collective learning can be achieved.

5. Developing teacher leadership in schools
The three case studies demonstrated how teacher leadership could be powerful in engaging teachers in school development processes that extend beyond their own classes. Teacher leaders can initiate changes in curricula and teaching methods and support these changes with small-scale studies. They can support their colleagues’ teaching and learning, stimulate teams’ collaborative learning, and contribute to teams’ self-awareness. They can bring educational theories and research outcomes into the school dialogues. They have a wider perspective on school organizations and reform processes and can use this knowledge to initiate, manage, and monitor innovation projects. In addition to these contributions, teacher leaders can be counterparts for supervisors and management, addressing strategic issues at the school level.

As such, teacher leaders are crucial in strengthening the profession’s role in improving the quality of teaching and learning. Our case studies identified two crucial elements that are conditional in supporting this key role of teachers: the development of leadership competences and the way in which teacher leadership is embedded in school structures and cultures.

5.1 Developing teacher leadership competences
In a recent literature review on teacher leadership, Poekert (2012) concludes that studies on teacher leadership ‘focus heavily on the foundational components of teacher leadership rather than the means by which it is developed, the means by which it is practiced in school, the targets of its influence and its impact on teaching and learning’ (p185). Therefore, there is a need for empirical studies that focus on how teacher leadership competences are developed, how teacher leadership can be implemented in schools, the underlying processes (Hulsbos et al., 2012; Muijs & Harris, 2006), and teachers’ roles in developing teacher leadership (Poekert, 2012).

In this research project, we gained a profound understanding of the leadership development process from teacher leaders’ perspectives. The case studies demonstrate that leadership qualities can be developed through engagement in teacher research and participation in a Master’s program. During the case studies, remarks were occasionally made that teacher leaders who were not able to generate school change were just not adequate as teacher leaders or that the university was not effective in preparing them for their school roles. These remarks ignore that teacher leadership is a new concept within many schools, requiring new mental models for organizations and hierarchies and new professional identities. This novelty implies that the teacher leaders within our case studies were pioneers who had to lay the groundwork, not only by
exerting their leadership to innovate education and support colleagues, but also by creating fertile ground in which teacher leadership could flourish. Such pioneers face a considerable and complex task when they are left to act alone.

Remarks that teacher leaders were just not adequate ignore this considerable and complex task and reflect the dominance of the transfer metaphor, suggesting that leadership development entails acquiring some tools and then applying them in the workplace. These remarks suggest that teacher leadership is something that is ‘turned on’ during a Master’s program, just as novice teachers after initial teacher education are often expected to immediately perform at the same level as teachers with 30 years of teaching experience. This static view on teacher leadership ignores that developing teacher leadership competences calls for a transformative learning process (Kegan, 2009; Mezirow, 2000; Ross et al., 2011) in which taken-for-granted frames of reference are transformed and new mindsets are developed. This process will require time and opportunities to test new behaviors. Just as novice teachers need support in the first steps of their career, starting teacher leaders will need support during their first steps as teacher leaders. This support must be given by fellow teacher leaders, supervisors, HRD departments, school management, and university teachers. This support was available in the academic development school of the first case study and in the three vocational schools in the third case study. However, these support structures end when learning arrangements have a limited duration, such as Master’s programs. It is the responsibility of schools, universities, and teacher leaders to maintain some type of support structure for teacher leaders in schools. Communities that bridge boundaries between schools and universities, even extending to other schools, can play an important role in this effort. The Community of Master’s Teachers in the Netherlands (COMN) and networks such as Leraren met Lef are examples of such communities.

The development of teacher leadership aligns with teachers’ career development processes and lifelong learning. Teachers who were engaged in the learning arrangements of the three case studies reported strong personal and professional growth, as they could relate their practical experience as teachers to new, wider theoretical notions and a change of identity. This progress indicates that learning arrangements focusing on teacher leadership fit very well in post-initial career paths and can be considered a professional development strategy (Poekert, 2012). In this manner, the teaching profession can develop into a profession that is characterized by continuous development and growth through several phases: junior teacher (in a probation phase), teacher, teacher leader. During these phases, the focus extends from pedagogical leadership within the classroom to teacher leadership covering classrooms, teams, schools and possibly the profession as a whole.

5.2 From strategically distributed to culturally distributed leadership

In schools where a culture of distributed leadership is absent, the development of leadership competences by individual teachers has little overall impact on
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To create a school culture of distributed leadership and to strengthen teachers’ roles in school innovation, it is necessary to give potential teacher leaders a clear position within the school supported and recognized by school management (e.g., as a teacher researcher or senior teacher). These leadership positions can be formalized through an explicit mandate from school management, connected to designated time and explicit expectations with respect to outcomes. This structure with mandated teacher leaders creates a clear context in which expectations are set, support can be provided, and teacher leadership roles cannot be ignored (Murphy, 2005).

However, such an arrangement creates a static context for teacher leadership: for all school staff, it is clear who is a teacher leader and who is not. This understanding creates a new hierarchy within schools. For regular teachers, it is clear that they do not have that position unless the school management selects them for it. Leadership is not an open invitation to all schoolteachers; it is a designated task. Some criticize this structurally embedded leadership, as ‘it places a limit on the development of leadership capacity, reaffirming the view that the sort of professionality that includes the exercise of leadership is only for the few rather than the many’ (Frost, 2012, p. 210). This perspective on teacher leadership contrasts with a perspective in which leadership is embedded within a school’s culture that ‘recognizes the potential of all teachers to exercise leadership as part of their role as a teacher. This view resonates with the work on ‘professional learning communities,’ ‘reflective professional enquiry,’ and the ‘deprivatisation of practice’ (Frost, 2012, p. 210).

This perspective of culturally embedded ‘leadership for all’ seems attractive and resonates with democratic values. However, our study demonstrated that there is little opportunity to develop this type of leadership within a context where no tradition of teacher leadership exists. Although formally mandated teacher leadership might run the risk of excluding other colleagues who do not have that senior position, our study demonstrates that senior teachers in formal and mandated positions can use their leadership to support teams in strengthening their agency as self-steering teams. Through their positions, senior teachers supported new distributed leadership practices and contributed to a culture in which teacher leadership became part of the school culture. This outcome aligns with the continuum of different forms of distributed leadership as identified by MacBeath (2009). These different forms can be considered a distributed leadership taxonomy or continuum, as ‘each of these different forms of leadership may be appropriate at a given time and in a given context’ (p. 44). The type of mandated leadership within the academic development school and vocational schools aligns most closely with ‘strategically distributed leadership’ but might eventually develop into ‘culturally distributed leadership’.

However, this development from strategically distributed leadership to culturally distributed leadership cannot be taken for granted. Distributed leadership is full of contradictory and power-related issues (Lumby, 2013). As can be
recognized in the third case study, the formal mandate given by the school management can easily be used to give teacher leaders assignments that align with the school’s strategic agenda. School management’s focus on teacher leader assignments can be understood in terms of the school’s need to ‘get the most out of the teacher leaders’ and to widen their impact on school improvement as much as possible. However, the downside of this focus is that school management dominates the issues that teacher leaders are expected to focus on, reducing school improvement to a management problem in which teachers are only pawns (Leeman & Wardekker, 2013; Van den Berg, 2012). In that case, the focus might be on school-wide managerial problems and general strategic issues, leaving little attention for micro-level issues with which teachers struggle. This managerial power might alienate teacher leaders from their colleagues, as they become strategic tools for school management (Murphy, 2005).

School leaders must be aware of these issues of autonomy, power, control, and facilitation in developing and sustaining teacher leadership. Successful school improvement and implementation are dependent on teachers’ capacity for change. Teacher leaders can initiate and support innovation, but they cannot do so on their own. Therefore, teacher leaders have a key role in strengthening teacher teams’ capacity for change. Professional development can lead to teacher leadership, and this teacher leadership will contribute to professional development of teacher leaders and their colleagues (Poekert, 2012). Schools that invest in developing leadership in some mandated teacher leaders must realize that this strategically distributed form of leadership is only one, albeit necessary, step toward more culturally embedded leadership forms in which self-steering teacher teams take the lead in adapting to the dynamic circumstances that they constantly face in providing the best possible education for their pupils.

6. Limitations and directions for further research
Sparse research has been conducted on how teachers can develop their leadership, how teacher leaders interact within school leadership practices, and what impact that newly developed leadership has on schools (Muijs & Harris, 2006; Poekert, 2012). Therefore, this study is explorative in nature, observing concrete contexts for leadership development and their impact on teacher development and school development.

6.1 Reflections on the research sample
In this research project, three contexts for teacher development were selected based on future teacher education scenarios. These future scenarios were inspired through a trend analysis regarding the education of teachers. The selected contexts differed in terms of the roles and relationships between schools and universities. The fourth scenario, the professionalism scenario, in which a professional group has a key role in designing and offering
teacher leadership learning arrangements, was not selected as a context for research, as such learning arrangements are still rare in the Netherlands. For further research, inclusion of such learning arrangements, e.g., around Onderwijspioniers (Teacher pioneers), could provide new information. Issues concerning transfer, boundary crossing, and school impact might develop differently in such contexts because professional, not institutional, borders dominate such designs.

Within each of the chosen contexts, one specific arrangement was studied using a case study design. Through case studies, contemporary phenomena can be studied within their real-life context, especially when boundaries between phenomena and contexts are not clearly evident (Yin, 2009). In case studies, generalization is not reached by statistical rules but rather through theoretical replication (Yin, 2009), where the cases are designed to cover different theoretical conditions. Through careful case analysis and comparison common explanations can be identified. Through such explanations, the case study approach can provide insights that are valuable for understanding other similar situations or cases (Cohen, Manion, & Morrison, 2011; Nisbet & Watt, 1984). In this research project, three specific local cases in a specific phase of their development could be studied. In each case, there was ‘within-unit variation’ (Gerring, 2004), as within each case the school was the unit of analysis.

In the first case study, the three schools of the Amsterdam Academic Development School (AcOA) were studied. The AcOA is one of 35 academic development schools in the Netherlands. The case study took place in the initial phase of its existence. In this case study, respondents included 11 of 19 teacher researchers in the three schools that participated in AcOA. Although only one academic development school was studied, the findings are similar to findings from other studies on academic development schools and on teacher research in schools (Admiraal et al., 2013).

In the second case study, the focus was on the Master’s program Professioneel Meesterschap. This Master’s program was unique as it was the only NIME-accredited MEd program and a non-government-funded program. However, the program aims focusing on teacher leadership were similar to those of the Master’s of Learning and Innovation program that is offered at other universities. The participants in this program came from various schools across the entire country. Of the first two cohorts, 18 of 21 participants were included in the case study, all coming from different schools. Although there are similar programs within the Dutch context, there are no available research outcomes on the impact of such programs on teacher development and school development. Extending research to other programs would be useful to compare our findings with similar Master’s programs.

In the third case study, the focus was again on the Master’s program Professioneel Meesterschap, but the program was redesigned in close
cooperation with three vocational schools. This program was unique in its design, so our findings cannot be compared with outcomes from other studies. In this context, eight of 42 senior teachers were selected to be included in the detailed data collection process. Selection criteria for those senior teachers comprised a mixture from the three vocational schools and from different sectors. Using other data, additional information was gathered on all participants.

Although the three contexts for the case studies differed and only one case study was used for each context, the within-case variation and the consistency of the outcomes over the three case studies indicate that the outcomes are generative and have meaning for a wider set of contexts.

6.2 Reflections on the research design and methods

The research design was based on a series of qualitative case studies. The strength of case studies is their close connection to reality and their potency to illustrate unique features and uncontrolled variables within research contexts. Qualitative and narrative research methods are considered valuable approaches in research on teacher leadership (Hulsbos et al., 2012) and the dynamics of organizations, change, and learning (Boonstra, 2000), as they can provide insight into dynamic processes and teacher leaders’ personal and subjective interpretations.

Through these case studies, it was possible to generate a detailed understanding of the design of the different learning arrangements and stakeholders’ perceptions about the impact of the learning arrangement on teacher development and school development, along with facilitating and hindering conditions. The three case studies were not intended to compare the three contexts but rather aimed to enrich our understanding of the impact of arrangements on teacher leadership development and school development. Through this approach, each study created an additional and more detailed understanding of the arrangements at stake. This understanding widened perspectives in each case study, shifting from a general understanding of the school’s structural and cultural conditions to a closer understanding of the impact of the organizational transfer climate. This closer understanding of conditions influencing the impact of teacher leadership development could be used to redesign the Master’s program. In the last case study, this understanding led to a more detailed understanding of boundary crossing and criteria for effective boundary objects.

Using interviews, the studies primarily focused on self-perceptions. Interviews can create a limitation, as perceptions may be blurred. Additional sources were used to generate a more balanced impression of the impact of the learning arrangements. In the first case study, documents and meeting minutes were used. In the second case study, each participant’s supervisor was interviewed. In the third case study, interviews with supervisors, university teachers, and
HRD staff were added, and monitor group meetings were analyzed. However, no observational information was collected on the quality of teachers’ actual leadership performance at the workplace or on the actual impact of the research projects that were conducted by teacher researchers and Master’s students. Additionally, colleagues’ voices were missing, even though effective teacher leadership would have a considerable impact on colleagues. Further studies can create a more detailed picture if they include concrete research project outcomes and colleagues’ perspectives and observe teacher leaders’ leadership performance. Another limitation is that the data collection process took place during or just after participation in the learning arrangement. As a result, these case study findings provide no indication with respect to the long-term effects of teacher leadership performance. Further longitudinal research would be helpful for answering the questions how the leadership performance of teacher leaders will impact long-term school leadership practices and whether strategically distributed leadership will evolve into culturally distributed leadership in vocational schools (MacBeath, 2009).

In Chapter 3, we used the validities that Anderson and Herr (1999) mentioned to evaluate the research projects of the teacher researchers. In these validities, special attention is given to the ‘democratic validity’ of research projects: the extent to which stakeholders are involved in designing the research project and giving meaning to the research data. This involvement is important, as case studies are not easily open to cross-checking, potentially leading to observer bias problems (Cohen et al., 2011; Nisbet & Watt, 1984). Stakeholder involvement was weakest in the second case study, as participants in the Master’s program and their supervisors were mainly treated as objects of study. In the first and third case studies, respondents were more actively involved, as preliminary results were reported and discussed with participants and other stakeholders (e.g., in the monitor group and focus group meetings in the third case study). In all three case studies, the outcome validity and catalytic validity, which focus on the usefulness of the outcomes of the research project for schools and the impact of these outcomes on generating change, were high because the outcomes were used to redesign the learning arrangements or to strengthen the organizational contexts for teacher leadership.

### 6.3 Directions for further research

So, although we were able to answer the main research questions, new questions arise which could be topic for further research:

- The research could be extended to other learning arrangements and contexts, including arrangements that fit in the professionalism scenario and are initiated by professional groups. Also, as the research context within this study focused on secondary and vocational education, further research should include learning arrangements for teacher leadership in primary education.
- The case studies of this research project were mainly focused on the design of the learning arrangement and on the conditions at the workplace. The
attention for personal characteristics of the participants and how these affected the impact of the professional development on school development was limited. This could be included more explicitly in further studies.

- Extension of the research to other learning arrangements, like other Master’s programs, can help in identifying effective boundary objects that facilitate boundary crossing.
- Further research can focus more strongly on internal boundaries within schools (including perceptions of colleagues and staff departments more explicitly in the process of data collection), and on the impact of boundary crossing on the university.
- Finally, further research can focus on the long term impact of teacher leadership and provide insight in the extent and way in which mandated leadership in schools can develop into culturally embedded leadership.

7. Practical implications

The resulting insights from this research project have several implications for schools, universities, teachers, and policy makers.

7.1 Practical implications for schools

To meet the changing demands of parents, pupils, and society, schools are in need of innovation and reflection capacities. As teachers are key stakeholders in these innovation and reflection capacities, it is important that schools’ human resource policies focus on the pedagogical quality of teachers and their skills and competences with respect to leadership and innovation (Lambert, 2006). Learning arrangements for teachers, whether they are on- or off-site (e.g., a Master’s program), can contribute to these competences. Developing these competences for leadership and innovation can be supported by a variety of on-site or off-site learning arrangements, conditions and structures, creating a rich learning landscape for teachers (Ruijters, 2006).

Introducing teacher leadership in schools will challenge existing structures and cultures. It can threaten existing hierarchies, positions, and autonomies. Strategies that aim at strengthening teacher leadership will need strong support from the school’s strategic management and a close connection to the school’s reform and capacity-building agenda. The policy in the three vocational schools is a good example of such a strategic alignment, as the introduction of new teacher profiles was not seen as an isolated policy issue and was closely connected to the schools’ broader innovation agendas.

Such a strategic alignment cannot simply be established at the school’s top level; instead, it should be adopted at all school levels. If not, internal boundaries might lead to a lack of ownership. This alignment requires a close involvement of schools’ middle management, as it has a key role in stimulating and recognizing the development of individual teachers and teams.
To support teacher leaders in assuming school leadership roles, their positions must be strengthened. Giving them a clear position as teacher researcher or senior teacher can provide such support. The connection with high teacher profiles (LC-salary scale in primary schools, LD-salary scale in secondary and vocational schools) can be an effective lever in this positioning. Another way to strengthen teacher leaders within the school is by appointing more than one teacher leader. Through a collective approach involving several teacher leaders, a critical mass can be created. Within such collaborative approaches, it is easier to create strategic alignment between program aims and the school’s agenda for change. The collective perspective does not have to be restricted to potential teacher leaders. When schools focus on strengthening self-steering teams, all team members can be engaged in team-focused learning arrangements. The school-focused Master’s program that Mitchell and Alexandrou (2012) describe is a good example of such a team-focused approach.

Appointing teacher leaders within a school is not a sufficient condition for changing leadership practices. Strategically distributed leadership might strengthen hierarchical structures when this leadership is not connected with teams’ day-to-day issues and not focused on supporting teams in their self-steering capacities. It is important that both school leaders and teacher leaders are aware of the difference between strategically distributed leadership and culturally distributed leadership. If schools want to strengthen culturally distributed leadership and improve teachers’ innovation capacity, it is necessary to trust teachers in their foci and intentions. Mistrusting teachers will create a meager context for innovations (Tschannen-Moran, 2009).

### 7.2 Practical implications for universities

The capacity for teacher leadership is one of the core competences for teachers who are part of a strong profession and can take the lead in improving teaching and learning. Institutes for teacher education need to lay the foundations for this capacity within their initial teacher education programs. As teachers are the key to providing as well as developing high quality education, initial teacher education should prepare teachers as experts in teaching and learning and experts in innovation and reflection. Within teacher education programs in the Netherlands, growing attention has been given to inquiry and practice-oriented research. However, in initial teacher education and formal requirements for novice teachers, little attention is paid to leadership qualities and understanding schools’ organizational dynamics and reform processes. Universities should consider including these elements in initial programs, as they contribute to the development of a professional identity that extends beyond the boundaries of the classroom (Fullan, 1993).

Teacher educators are role models to their students (Lunenberg, Korthagen, & Swennenn, 2007), not only in their modeling of exemplary teaching behavior, but also in their leadership performance, and involvement in innovation and inquiry. Teacher educators need to be aware of this modeling role. This awareness
is reflected in the professional standard for teacher educators through the ‘standard on organization and policy’ (VELON, 2012a). Being a role model to potential teacher leaders implies that teacher educators should consider themselves teachers as well as learners who use their involvement in boundary activities as a catalyst for changes within the university.

Achieving this reciprocative view on expansive learning requires intensive and democratic partnerships based on equality of the partners involved (Mitchell & Alexandrou, 2011), in which universities are flexible to adapt their programs to the school’s issues and concerns and to design programs such that they contribute to both learning and innovation in both schools and universities. The focus on flexible partnership programs instead of ‘taught programs’ requires a different, more flexible and entrepreneurial mindset in teacher educators.

Flexible Master’s programs can make it possible to recognize and accredit research projects that teacher researchers have conducted within academic development schools and to credit these as formal contributions to a Master's level qualification, leading to a certificate that can be used for shortcuts in Master’s programs. In this manner, implicit learning within academic development schools and explicit learning in the context of a Master’s program can be combined. However, this combination would imply a stricter and more formal assessment of the quality of teachers’ research projects in academic development schools.

7.3 Practical implications for the partnership between universities and schools
To increase the impact of formal learning arrangement on school development, it can be helpful to redefine partnerships between universities and schools, avoiding metaphors that emphasize the separation of activity systems and focusing instead on creating shared spaces. Within these partnerships, external curriculum consistency is important. This consistency implies a shared understanding of professional development aims and school development aims (strategic alignment) and a shared understanding of how processes of professional development and school development are mutually related (a theory of improvement).

This shift applies to partnerships in both initial and post-initial teacher development. With initial teacher education, the limited impact of learning arrangements on work practices is still a major concern. One of the dominant problems that teacher educators experience is that in the classroom, students do not sufficiently practice the teaching skills that they have been taught at the university (Amagir, Van den Berg, Van Veldhuizen, & Wilschut, 2014; Wideen, Mayer-Smith, & Moon, 1998; Zeichner & Tabachnick, 1981). This problem is often formulated in terms of transfer: the concepts students have learned in one ‘context for learning’ are not applied in another ‘context for application’. Redefining these problems in terms of boundary learning might help solve this problem. This redefinition recognizes that neither the university nor the school
can solve the problem of ‘limited transfer’ on its own. Thus, with initial teacher education, the challenge for universities and development schools is to redefine learning arrangements in terms of boundary zones, which requires strategic alignment between school and university, support for boundary crossers, and powerful boundary objects.

To strengthen the impact of initial and post-initial programs, boundary zones and boundary objects are essential, providing spaces and tools for activities that cross the boundaries between schools and universities. Such boundary objects can create spaces where stakeholders from different activity systems collaborate equally across institutional borders and agendas. Identifying such boundary objects is a challenge for universities and schools. Research projects, based on shared research questions and designs that can meet both systems’ needs, can act as strong boundary objects, as can professional learning communities that allow teachers, teacher educators, and students to work together equally and to focus on a shared agenda.

Strategic alignment and collectivity as design criteria for Master’s programs can be problematic in Master’s programs with individual enrolment of teachers from various schools. In such Master’s programs, the individual motivation of teachers to develop their professional qualities dominates. However, when schools aim at strengthening leadership capacity within their schools, collective programs based on strategic alignment can have a greater impact. These two perspectives of individual and collective enrolment, imply that universities can offer various parallel designs: ‘taught programs’ with a fixed curriculum and individual subscription and ‘partnership programs’, which are designed in close collaboration with one or two schools and participation from a teacher group (Mitchell & Alexandrou, 2012). These ‘partnership programs’ call for a fundamentally different approach from the university's management and teachers, recognizing school-university partnerships, involving the school’s supervisors and strategic management, and aiming to contribute to innovations and interventions within schools. Developing such flexible partnership programs will be a challenge for universities at both the strategic level and the level of university teachers and their professional qualities.

7.4 Practical implications for the teaching profession
Teachers can assume leadership roles, not only within their classrooms but also beyond their classrooms – in their schools and in their profession, using their voices and agency to meet pupils’ needs, develop school curricula, work collaboratively, and support colleagues. To assume these leadership roles, teachers need to develop their leadership qualities. This development is conditional for a profession that is granted professional autonomy and is trusted by school leaders and society. Therefore, teacher leadership qualities need to be integrated explicitly in teachers’ professional requirements (Bekwaamheidseisen) (Onderwijsraad, 2014). These qualities include theoretical expertise in teaching and learning, a focus on academic research
outcomes, and an inquiring attitude. Other qualities include an open eye for developments in society and the workplace, a focus on shared aims, and an understanding of organizational structures and innovation processes. Those qualities create the foundation for professional autonomy, not on an individual level but on a collective level.

Teacher leaders act as boundary crossers between school and university and between their teams and school management. They will constantly need to find a balance between their focus on supporting colleagues in their concerns related to their day-to-day tasks in teaching pupils and their focus on supporting and advising school management on strategic issues for the school. As boundary crossers, teacher leaders need to act as brokers, connecting practical and strategic levels.

The role of teacher leaders in connecting practical and strategic levels becomes even more important for those teacher leaders who assume roles that extend beyond the level of their school. Within the teachers’ professional body, the Onderwijscoöperatie, and similar professional groups, teachers contribute to the development of national teacher policies, e.g., as ambassadors for the teacher register, as negotiators with the Ministry, or as quality assessors of learning arrangements. To be able to assume responsibility for such roles, such teacher leaders require a high level of strategic awareness and a thorough understanding of national policies and policy mechanisms. The teachers that are active within the Onderwijscoöperatie and similar professional groups should be supported by learning arrangements that prepare teachers for such roles.

Through the Onderwijscoöperatie, teachers reclaim their professional autonomy with respect to school curricula and professional development. This autonomy is reflected in the professional register for teachers, Lerarenregister.nl, through which the profession takes responsibility for maintaining and developing its professional quality. However, in the register and its professional development requirements, no connection is made with the school’s reform agenda or to collective designs in which colleagues can work collaboratively on their professional development (Onderwijscoöperatie, 2013). This focus on individual professional development neglects the importance of relating professional development activities to the school’s innovation agenda. It also ignores the role of the school’s organizational structures and culture as a condition influencing the impact of those professional development activities on school development. The teacher register need to be adapted such that it more explicitly connects individual professional development to school development and, as a collective instrument, stimulates collaborative team-oriented activities that connect professional development and school development.

7.5 Practical implications for national policies
Teachers’ key roles with respect to pupils’ learning, curriculum development, and innovation must be supported by national policies. Teachers’ voices must be recognized in educational policymaking. This recognition is reflected in
Dutch educational policies that support the development of the teaching profession’s national body and recognizes teachers as stakeholders in policymaking.

As indicated in Intermezzo 1, the Dutch government plays a key role in defining the playing field on which teacher development stakeholders operate. Through financial arrangements, quality criteria, and bilateral agreements, the government creates the conditions for schools, teacher education institutes, and the teaching profession to contribute to a strong teaching force (Ministerie van OCW, 2013). As indicated, connecting professional development and school development requires active collaboration and boundary crossing between stakeholders from different activity systems. To strengthen the relationship between professional development and school development, governmental policies must support this boundary crossing.

However, in terms of teacher development, the policy process seems to be dominated by negotiations between separate stakeholder groups, resulting in policy measurements that address only a single group of stakeholders. Through these separate steering mechanisms that focus on one specific stakeholder group, the policy-making process reflects and emphasizes existing boundaries between activity systems. In policies addressing post-initial teacher development, agreements with universities focus on learning arrangements that lead to formal qualifications, agreements with schools focus on school development, and agreements with the Onderwijscoöperatie and teachers focus on individual professional development. This research project demonstrated that the relationship between learning arrangements, individual professional development, and school development is important, but not self-evident. For learning arrangements to be effective in terms of professional development and school development, alignment between the aims and designs of the school and university contexts is necessary; boundary crossing between both contexts must also be stimulated. Governmental policies can play a key role in stimulating this alignment.

Policies that aim to increase the number of teachers with a Master’s degree must consider schools’ organizational climates. If these climates are not supportive of the qualities that Master’s teachers bring to schools, investments in Master’s programs will have limited impact on school development. The present bursary system for Master’s studies for teachers, the Lerarenbeurs, focuses explicitly on teachers’ professional development as individual teachers apply for funding, while no relation is required with the school’s reform agenda (Ministerie van OCW, 2009). In addition to the individual Lerarenbeurs, collective arrangements must be made possible and stimulated, facilitating group enrolment fostering team collaboration. As collective and collaborative arrangements for a group of teachers from one schools will be logistically and financially difficult to arrange, it might be necessary to create arrangements that can be spread over a longer time. Such a scheme does not align with present funding arrangements, such as the Lerarenbeurs, and will require more flexibility in financial arrangements.
8. Final reflections
Within this research project it was necessary to limit ourselves. This limitation was helpful to focus our attention and to be able to find answers to the research questions. However by limiting ourselves, parts of the bigger picture are lost. We focused our study on teacher leadership, as the process by which teachers exert influence on colleagues, school leaders and other members of the school community. We did not look at the way in which teacher leaders exert influence on their pupils and students. Our choice to look at the impact of teacher leaders at levels beyond the classroom, might unintendedly communicate a message that this leadership is more important and of a higher status than the work of teachers within their classroom. This message reflects traditional hierarchies within schools.

However, that message is not a message we intended to communicate. The credibility of teacher leaders is based on the quality of their work with pupils. Within the classroom they will exert influence on pupils, trying to inspire and support them, putting effort in developing a leadership culture at classroom level. Within this leadership culture pupils are challenged to take collaboratively responsibility for the learning climate within the classroom and are stimulated to take charge of their own learning process.

Teacher leadership at team or school level cannot exist without this pedagogical leadership of the teacher within his or her classroom. However, the relation between these two levels of teacher leadership has not been clarified within this study. No information was collected regarding the impact of the professional development of the teacher leaders on their pedagogical leadership while working with pupils. As teacher leadership is considered a quality which is directly related to the identity of being a teacher, further research on how the identity of being a teacher and being a teacher leader, and on how working within and beyond classrooms are related, would be of value.

Another element that was lost through the focus that we chose for this research project, was the perspective of the university. As we are part of a system that is dominated by the ‘transfer’ metaphor, our thinking is also influenced by that metaphor. The main research question reflects that influence, as the focus on how post-initial learning arrangements contribute to teacher development and school development, ignores the reciprocity of expansive learning in the boundary zone between school and university. Through using the metaphor of boundary crossing in the third case study we became aware of the limited perspective of our research question. Retrospectively, we would have rephrased the research question as

To what extent and in what way do post-initial learning arrangements that focus on teacher leadership contribute to teacher development, school development and development of the university?
The fact that university development was excluded from our research question and therefore was not included in systemic data collecting, doesn't imply that there was no development within the university. The redesign of the Master’s program that was the focus of the third case study shows how the experiences of university teachers and the parallel case studies contributed to change. A year ago, the experiences and research outcomes were the source for another design of a Master’s program which is based on a joint program of the Master’s program *Professioneel Meesterschap* focusing on teachers and a Master’s program on educational leadership focusing on school leaders. Through the joint program, formal and in-formal leaders are brought together in one setting, strengthening their strategic partnership and shared leadership. This joint Master’s program, the partnership Master’s program of the third case study, and a taught Master’s program on teacher leadership offered by the Hogeschool van Amsterdam, create a variety of learning arrangements that try to support teachers in raising their voice and in strengthening their agency. Through this we hope to contribute to a profession that takes the lead in making a difference in the lives of pupils.