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SUMMARY
Developing teacher leadership and its impact in schools

Introduction
Successful school improvement is dependent on schools’ capacities to initiate and 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. Teachers’ change capacity can be understood as the ability of teachers – individually or collectively, through development, inspiration and research – to provide direction and exert influence on their colleagues, school leaders, and other school community members. In this research project, this role to provide direction and exert influence – with the aim to improve teaching and learning practices that enhance student learning and achievement – is indicated as ‘teacher leadership’.

Teacher leadership requires specific skills and knowledge. Initial teacher education programs do not adequately prepare teachers for leadership roles, leaving many teachers ill-prepared to exercise leadership beyond their classrooms. Developing teacher leadership thus requires specific post-initial learning arrangements. However, the relationship between the design of post-initial learning arrangements for teachers and their actual impact on school outcomes is complex. This connection assumes a causal relationship between the learning arrangement design and teachers’ development of competences; a causal relationship between the developed competences and the teachers’ actual roles, performance, and behavior in the school; and a causal relationship between new roles and behavior and the school outcomes in terms of student or pupil learning results or school development.

This research project focused on two issues: on the need for learning arrangements for teacher leadership and on the complex relationship between learning arrangements and their impact in the workplace. The key aim of the research project was to provide insight into the extent to and ways in which post-initial learning arrangements that focus on teacher leadership contribute to teacher development and school development.
The theoretical framework
Within this study, the term ‘teacher leadership’ implies an active and responsible role of teachers that exceeds the level of the individual teacher acting in his or her classroom, adding activities related to teacher inquiry, innovation and inspiring colleagues and the school as a whole. Teacher leadership may be fixed through formal leadership positions that are mandated or delegated to specific experienced or accomplished teachers (Harris, 2007; MacBeath, 2009; Yukl, 1999). Alternatively, this role may be dynamic when each teacher is recognized as having the potential to exercise leadership as part of his or her role, when leadership is shared and distributed among all teaching staff, and when the roles of leaders and followers shift over time (Frost, 2012; Kessels, 2012; Lambert, 2002).

The relation between learning arrangements and application of newly developed competences at the workplace is indicated with the term ‘transfer of learning.’ Research on ‘transfer of learning’ indicates that the impact of learning arrangements at the workplace is influenced by the design of the learning arrangement, by the participant’s personal capacities and motivation, and by the ‘organizational transfer climate’ (Baldwin & Ford, 1988; Boshuizen, 2003; Gielen, Streumer, & Van der Klink, 2004; Van der Klink, 2012). This organizational transfer climate addresses the workplace conditions that support or hinder the application of newly developed competences at the workplace (Hatala & Fleming, 2007; Lim & Morris, 2006; Rouiller & Goldstein, 1993).

The awareness that the impact of learning arrangements is not only defined by the aims and design of the learning arrangement, but also by workplace conditions draws attention to ‘external curriculum consistency’: the homogeneous notions of the parties involved (e.g., learning arrangement providers and workplace managers) about the aims and intended outcomes of the learning arrangement (Kessels, 1993). To create that homogeneity, strategic alignment is needed between the key aims of the learning arrangement and the workplace reform agenda.

This strategic alignment calls for a dialogue between stakeholders from different contexts. This dialogue can be considered a boundary-crossing process between two activity systems (Akkerman & Bakker, 2011; Engeström, 2001; Tsui & Law, 2007). In this boundary-crossing process, the learning arrangement can be understood as a boundary zone, and the participants can be considered boundary crossers. Specific learning arrangement activities, such as a research project, can act as concrete boundary objects, stimulating and supporting a shared discourse through which contextual differences are explored and collective learning can be achieved (Carlile, 2004; Star, 1989).

Research questions
To provide insight into the extent to and ways in which post-initial learning arrangements that focus on teacher leadership contribute to teacher and school development, it was necessary to identify specific learning arrangements
that could be the context for empirical research. This led to the first research question:

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

Four prototypical learning environments have been identified, based on a literature review. Examples of three of these prototypical learning environments can be recognized in the Dutch context. Three concrete examples of such learning environments have been used as context for empirical case studies, guided by the following three additional research questions:

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?

3. To what extent and in what way does a formal Master’s program for teacher leadership contribute to teacher development, to new leadership roles for teachers, and to school development, and which elements within the organizational transfer climate of the school stimulate or hinder these developments?

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

**Contexts for teacher leadership development**

In Chapter 2 the first research question is answered, identifying trends in society and education that influence the design of learning arrangements for teachers and their impact on the dynamics and boundary crossing between schools and universities. Based on the analysis of 48 documents with future scenarios on education and teacher education, a set of unpredictable key factors have been identified that might impact the design of learning arrangements for teacher’s post-initial development.

The analysis also revealed the roles of key stakeholders: governments, schools, teacher bodies, and universities. These key actors are part of different activity systems. The scenarios that are presented in the documents show that the relation between these stakeholders and the boundary-crossing activities between the activity systems of these stakeholders have a large impact on the design of learning arrangements. Based on further analysis of the interaction between these different stakeholders in each scenario document, four potential prototypical scenarios for the future of teacher education emerged:
• The *market-oriented scenario* is a scenario in which learning arrangements are the result of a customer-provider relationship. The key focus is meeting the needs of the school as a customer, as universities and other educational providers compete to offer schools their services. The dominant actor is the school, and the focus is school development.

• The *bureaucratic scenario* is a scenario for (post-initial) teacher development in which the government and policy system is dominant, defining the playing field for each of the other two stakeholders. Boundary activities are largely shaped in terms of imposed regulations and negotiations between policymakers and pressure groups from the other two activity systems. The dominant focus is individual professional development in the context of formal quality requirements.

• The *network scenario* is a scenario in which boundaries between the activity systems of the school and university are crossed. Institutional structures are replaced by a network structure that is characterized by mixed communities of practice of teachers, school leaders, teacher educators and researchers. In this scenario, the dominant focus is bridging individual professional development and school development.

• The *professionalism scenario* is dominated by professional groups of teachers and teacher educators who assume responsibility for their professional quality.

The analysis of the scenario documents revealed 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 bridge institutional boundaries.

The *intermezzo* following Chapter 2 reflects the extent to which the four prototypical scenarios can be recognized within the Dutch context for teacher development. Based on this reflection, three different types of learning arrangements for developing teacher leadership were identified that could act as the context for the three empirical case studies: the academic development school as a school-centered context for teacher development (closely related to the market-oriented scenario); a university-centered Master’s program for teacher leadership (closely related to the bureaucratic scenario); and a partnership-based Master’s program for teacher leadership (closely related to the network scenario). At this moment, no examples of learning arrangements for developing teacher leadership competences that fit in the professionalism scenario, can be found within the Dutch context.

**Leadership development in academic development schools**

In *Chapter 3*, the second research question will be answered. In this chapter, the first empirical case study is presented, focusing on the academic development school as a context and arrangement for teacher development. In the academic development school that was the context for this study, the design of the learning arrangement for teachers was almost entirely arranged within the
context of the school, with limited support from the university. The participating teachers were engaged in research projects that aimed to contribute to school development. The contribution to teacher development was more implicit, with an emphasis on developing the skills to conduct research. There were no explicit criteria for learning outcomes or explicit assessment procedures.

To answer the question in what way learning arrangements within an academic development school contribute both to teacher development and to school development, qualitative data were collected through semi-structured interviews with 11 teacher researchers in three schools. The study demonstrated that teacher engagement in research projects within the school can contribute to development at three levels: the individual teacher level, the teacher team level, and the overall school level. The extent to which teacher engagement in research projects both contributed to professional development and to school development varied strongly between the schools. In all three schools, professional development of individual teachers was reported, while in two of the three schools also collective learning within teams of teacher researchers was reported. In only one school the teacher researchers indicated that they contributed to the development of the school as a whole.

Participants within this school reported an increased awareness about the school as a complex organization; about the role of management in the school; and how their own passions, competences, and potential, along with their colleagues’ qualities, could contribute to innovations.

Based on the differences between the three schools, some important school conditions have been identified that can contribute to connecting effective professional development for teachers and effective school development, and that can stimulate or hinder teachers’ opportunities to exert their leadership at school. These conditions are:

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

**Leadership development through Master’s programs**

In the second Intermezzo following Chapter 3, the second context for developing teacher leadership is introduced: accredited designs in formal Master’s programs for teacher leadership.

The second case study, presented in Chapter 4, focused on an accredited
Master’s program for teacher leadership, which was defined by the university and based on quality criteria given by the government, with limited school involvement. In answering the third research question on the way in which a formal Master’s program contributes both to professional development and new leadership roles of individual teachers as well as to school development, special attention was given to the role of the organizational transfer climate in schools. This transfer climate was considered critical in enhancing or hindering the use of teacher leadership competences and their impact on school development.

In this case study, 18 graduates from the first two cohorts and their school supervisors were interviewed. The outcomes demonstrated that in the context of a Master’s program with individual participants, the impact of the program on individual teacher development can be significant. Participants developed a strong motivation to use their new leadership qualities within their teams and the schools as a whole. However, the possibility to use their leadership qualities outside their classrooms and to contribute to team and school development depended on the extent to which organizational transfer climate aspects – such as strategic alignment, situational cues, use opportunities, and support from supervisors and peers – are supportive. When these aspects are supportive, a strategic partnership between the teacher leader and the supervisor can be created. When teacher leaders are isolated within their schools and when school management, supervisors, and colleagues are not responsive to their leadership, teacher leaders will have difficulty in trying to make a difference. A Master’s program in teacher leadership may have limited impact on the school development 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.

The third Intermezzo following Chapter 4 elaborates how the findings of the second case study stimulated a rethinking of the design of the Master’s program.

Based on the outcomes of the study reported in Chapter 4, six design principles were formulated for Master’s programs that intend to increase boundary crossing between the university and the workplace, thereby stimulating stronger external curriculum consistency in the learning arrangement, based on strategic alignment between the aims of the university and school. These design principles focus on the design process (principle 1 and 2) and the program itself (principle 3 to 6).

1. Strategic alignment between the school’s reform agenda and the aims of the Master’s program;
2. Shared ownership of the university and the school;
3. A strong connection between program content and school issues;
4. Collective engaging of several teachers from one school in the program;
5. Engagement of school supervisors in boundary-crossing activities;
Based on these design principles, a new design for the Master’s program *Professioneel Meesterschap* was made, in close cooperation with three colleges for vocational education. This redesigned Master’s program in which the activity systems of both the school and university were connected through various forms of boundary crossing was the context for the third empirical case study.

In *Chapter 5* the fourth research question on the way in which these forms of boundary crossing between school and university strengthened the connection between teacher development, new leadership roles and school development is answered. In this case study 42 senior teachers within three vocational colleges participated in the program. Data were collected through semi-structured interviews with eight senior teachers, their supervisors, and their university teachers. Additional data were collected through interviews with strategic management representatives from the vocational colleges and during focus group meetings with university teachers and with management, administrative staff and senior teachers from each vocational college.

The study revealed that the senior teachers had developed knowledge, skills, and a sense of self-efficacy relating to teaching, learning, organization, innovation and research. Although their formal roles within the schools had not changed, they performed their regular tasks differently. In this changed performance they used their new capacities, showing a deeper understanding of teaching and learning theories; a wider perspective on 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, teams, and supervisors and, collectively, toward management and staff at the school level. Through this new performance, they were able to have 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 in which they were role models to their students. They were also able to influence leadership practices within the school by contributing to the teams’ self-awareness, a more proactive team attitude, a stronger focus on team learning, and a greater openness to research, data, and theory.

The Master’s program contributed effectively to school development, changing work practices and leadership practices within the schools. Decisive design elements that contributed to school development included strategic alignment, the program collectivity involving 42 teachers from three vocational colleges, and shared ownership by university teachers and strategic management of the three colleges.

While the Master’s program was effective in connecting professional development of senior teachers and school development, and the participants created an effective critical mass within their schools that acted as a catalyst for innovation within the school, the program design has still room for
improvement. The ownership with respect to the program aims and program design was mainly at the level of strategic management, as it was not extended to supervisors of the senior teachers. This finding indicates the existence of internal boundaries within the vocational colleges that must be considered to strengthen the impact of the Master’s program. Additionally, the program design did not support the engagement of supervisors and university teachers in boundary-crossing activities. Effective boundary objects that could act as interface for a shared and meaningful discourse were missing.

**Conclusions and suggestions for further research**

The reflection on the outcomes of the three case studies leads to a number of wider-ranging conclusions for the design of learning arrangements and the implementation of teacher leadership in schools.

In formal learning arrangements which are characterized by a separate learning context and work context – like the context of the second and third case studies – the gap between both contexts is often addressed by using the ‘transfer’ metaphor. In this metaphor, knowledge provided by one context must be applied in another context. The use of the ‘transfer’ metaphor in educational contexts actually increases the separation of the two contexts and emphasizes a separation between professional development and school development and between learning and innovation. To increase the impact of learning arrangements on school development, we must abandon segmented mental models in which teacher development and innovation are considered different and sequential tasks and in which schools and universities are considered as separate, albeit symbiotic, systems. Instead, new mental models are needed in which learning is understood as a boundary process in boundary zones with the use of boundary objects. Such mental models can support the development of strong and equal partnerships between universities and schools which focus on both teacher development as well as school development.

Aiming for external curriculum consistency, this boundary learning process can be strengthened through the mutual involvement of schools and universities in designing learning arrangements. Additionally, boundary crosser positions can be strengthened by engaging a larger group of boundary crossers and creating explicit positions for these boundary crossers within the school (e.g., as teacher researchers or senior teachers). Finally, boundary objects that engage stakeholders in shared discourse and exploration of contextual differences can support boundary learning. Within the case studies, several effective boundary objects (like the research projects of the participants in the Master’s programs, and the monitor group) and less effective boundary objects (like the participation of supervisors during guest lectures) have been identified.

The case studies demonstrate that the separation between school and university assigns universities to the role of knowledge deliverers and advisors in schools’
reform processes. In this role, university teachers are expected to be teachers. Limited attention is given to their role as learners. As a result, expansive learning within university and school boundary zones is focused more on the impact on schools and less on the impact on universities. This fits in learning arrangements within market-oriented scenarios or bureaucratic scenarios that are still dominant. However, learning arrangements that are based on partnerships require a fundamentally different mental model in which expansive learning in boundary zones is considered as a mutual process. In such a new mental model boundary crossing activities will lead to professional development of both teachers and teacher educators. This process of mutual learning can eventually lead to both school development and development of the university.

The three case studies demonstrated how the development of teacher leadership qualities can contribute to the engagement of teachers in school development processes that extend beyond their own classes. However, an active role of school leaders is an important condition for actual enactment of that leadership. Through their leadership, teacher leaders are key in strengthening the profession’s role in improving teaching and learning quality. The teacher leaders within our case studies were pioneers who had to build a foundation for teacher leadership practices in schools, exerting their leadership to innovate education and support colleagues while at the same time creating fertile grounds within their schools in which teacher leadership could flourish. Therefore, such pioneers face a complex task. To accomplish this task, development of leadership capacities is needed. This process of developing teacher leadership capacities will require time and opportunities to test new behaviors. In this development process, beginning teacher leaders will need support during their first stages of teacher leadership. In this manner, teacher leadership can be considered a professional development strategy that fits well within post-initial career paths.

For the schools that were part of this research project, teacher leadership was a new element within the schools. The school leaders in the first and third case studies made room for mandated leadership by appointing teacher leaders within their schools. Because of their position and their mandate, the teacher leaders were visible and could not be ignored within their schools. This mandate was considered a key condition for the successful implementation of teacher leadership within these schools. At the same time, this structurally distributed and mandated leadership has pitfalls, as it can create a static structure with teacher leadership as a managerial instrument based on school management assignments focusing on the school’s general strategic issues. This structure might ignore teachers’ concerns about their day-to-day struggles in supporting pupil learning. However, the case studies showed that formally mandated teacher leaders can also support teams’ self-awareness, contributing to a type of leadership that is not based on formal and mandated structures but rather on a culture in which every teacher has the potential to assume a leadership role. In this manner, the leadership of a limited set of selected and
mandated teacher leaders might be a step in the developmental process of schools towards leadership and reform capacity of all teachers.

Although we were able to answer the main research questions, new questions arose 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, further research should include learning arrangements for teacher leadership in primary education.
- Further research should look more closely into personal characteristics of the participants and how these affect the impact of professional development on school development.
- Extension of the research to other learning arrangements, like other Master’s programs, can help in identifying effective boundary objects that facilitate expansive learning.
- 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).
- The emphasis in this research project was on the impact of learning arrangements on schools. Further research on expansive learning in learning arrangements that are characterized by partnership models need to address more explicitly the impact of expansive learning on universities and teacher educators.
- 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 forms of embedded leadership.

**Implications for practice and policy**

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

*Schools* can increase their capacity for innovation by recognizing the crucial role of teachers in innovation processes and by supporting the development of teachers’ leadership and innovation capacities within their schools. In HRD policies geared toward strengthening that capacity, a connection needs to be made with the school’s strategic agenda. While making this connection, internal boundaries between organizational levels and staff departments must be considered.

Introducing teacher leadership in schools will require clear positions and mandates for teacher leaders. However, it is important that both *school leaders* and *teacher leaders* recognize and address the tension between strategically distributed leadership and culturally distributed leadership. They need to strike a balance between structure and control on the one hand and teachers’ trust, agency, and self-steering on the other hand.
Universities should consider to include the foundation for teacher leadership in the curricula for initial teacher education. Teacher educators can model this leadership for their students.

Within school-university partnerships, the mental model that is dominated by the transfer metaphor need to be challenged. Boundary objects can stimulate collaboration on an equal basis across institutional borders and agendas. Such partnerships create opportunities for collective in-service programs that focus on shared agendas, and on school development as well as university development. This focus requires a new university flexibility to adapt curricula and involve school supervisors and management in designing tailor-made curricula. This requires a change of mindset by universities and university teachers toward more flexibility and entrepreneurship.

In school-based learning arrangements, such as academic development schools, learning outcomes could be made more explicit so that they can be presented for assessment, thus contributing to formal qualifications.

Teachers can assume leadership roles, not only within their classrooms, but also beyond their classroom – in their schools and in their profession - using their voices and agency to develop teaching and learning in schools and the profession as a whole. This leadership role can be supported by developing leadership capacities. These leadership capacities must be included in the professional requirements for teachers (Bekwaamheidseisen). The impact of professional development initiatives that the teaching profession (the Onderwijscoöperatie) endorses (e.g., in connection to the Lerarenregister) can be improved by connecting them more explicitly to collaborative learning of school teams and school development.

The key role of teachers in leading and developing teaching and learning should be reflected in national policies and the policymaking process. Teacher development policies must include the development of leadership capacity while recognizing that this capacity can only flourish in schools that are responsive to new forms of distributed leadership within their schools.

Governments should stimulate partnership models that combine a focus on teacher development and school innovation. Teacher policies should avoid traditional transfer-based mental models of teacher learning that result in disconnected roles for universities and schools. Instead, steering mechanisms should take partnership models and collaboration between schools and providers of learning arrangements as a starting point, recognizing the interrelatedness of learning arrangements and school context, and stimulating strategic alignment between school innovation agendas and program aims.