



The impact of the organizational transfer climate on the use of teacher leadership competences developed in a post-initial Master's program



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HIGHLIGHTS

- Use of teacher leadership skills learned in a Master's program is not self-evident.
- The organizational transfer climate supports or hinders use of leadership competences.
- Strategic partnerships between Master's teachers and formal leaders support transfer.
- Then, Master's programs contribute to teacher development and school improvement.

ARTICLE INFO

Article history:

Received 21 January 2013
Received in revised form
3 October 2013
Accepted 8 October 2013

Keywords:

Teacher development
Teacher leadership
Master's programs
Transfer of learning
Organizational transfer climate
In-service learning

ABSTRACT

The transfer of learning outcomes of Master's programs for teachers is not self-evident. In this study, 18 teachers who recently graduated and their supervisors were interviewed on the transfer of leadership competences developed during their Master's program and on how the organizational transfer climate of the school supported or hindered this transfer. In schools with high levels of transfer, strategic partnerships between Master's-level teachers and formal leaders were observed, which facilitated a two-way process in which the application of new competences led to changes in the workplace. Therefore, the Master's program contributed to both professional development and school improvement.

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1. Introduction

1.1. The effectiveness of Master's programs as a strategy for professional learning

As teachers are the key to enhancing learning in schools, it is essential that they themselves have access to extensive learning opportunities (Bransford, 2000). Thus, it is important to establish which learning opportunities are effective in helping teachers provide their students with the best possible education. Research on in-service professional development suggests that effective program designs are characterized by situated learning in the workplace, collective and collaborative learning within a team of teachers, and the involvement of teachers in the goals, content, and

design of learning activities (Borko, Jacobs, & Koellner, 2010; Kennedy, 1998; Knapp, 2003; Little, 2006). Such characteristics are in contrast with the characteristics of many traditional qualification courses, which are often characterized by off-site activities (e.g., lectures and workshops), individual subscriptions, and fixed curricula.

Nevertheless, in policies on teacher quality and career requirements, qualification courses are considered important tools for teacher development and improving student outcomes. Such courses are thought to contribute to Master's-level teachers assuming leadership roles within their schools (Blackwell & Diez, 1998). Teachers themselves also consider formal qualification courses to be effective professional development activities, as shown by the Teaching and Learning International Survey (TALIS) (OECD, 2009).

As there appears to be tension between the design criteria for effective in-service professional development activities and the actual design of many Master's programs, there is sufficient cause

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to investigate the actual impact of Master's programs. Qualification courses, such as Master's programs, are expected to have a strong impact on teachers in terms of their professional learning. However, the main goal of such programs is that they lead to changes in teacher behavior in the classroom and in the wider school environment. Studies on the actual impact of Master's programs must also address their contributions to improvement within the school. Therefore, studies must also determine how these programs contribute to the transfer of learning to the workplace (De Rijdt, Stes, Van der Vleuten, & Dochy, 2012). In this paper, we consider the impact of a post-initial Master's program that is focused on the development of teacher leadership by analyzing the extent in which leadership competences are used at the workplace and the conditions within the school that influence this during and after an in-service Master's program.

In research into 'transfer of learning' to the workplace, transfer is usually rather traditionally defined as the effective and continuing workplace application of the knowledge, skills, and conceptions gained during professional development programs (De Rijdt et al., 2012). In this paper, we build on this body of research, since it has identified important elements in organizations that enhance or hamper the use in the workplace of competences learned in courses or programs outside the workplace. However, we adopt a different notion of transfer than is implied in this research. We do not conceptualize 'transfer' as carrying over discrete entities of knowledge and skills to a new situation, but rather as a process of boundary crossing between activity systems which involves a reinterpretation of the work situation and an adaptation of the competences learned in – in this case – the Master's program (e.g. Tuomi-Gröhn & Engeström, 2003). From this perspective, 'application' or 'transfer' of competences implies an active process of adapting the learned competences for use in the work situation, thereby changing the work situation as well.

1.2. Developing non-positional teacher leadership

In their review of teacher leadership research, York-Barr and Duke (2004) define teacher leadership as 'the process by which teachers, individually and collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement' (pp. 287–288). This influence can be exercised through distributed leadership, based on formal positions or roles in the organizational hierarchy of the school (MacBeath, 2005), or through non-formal or shared leadership, recognizing the potential of all teachers to exercise leadership as part of their role as teachers (Frost, 2012; Kessels, 2012; Lambert, 2002). In a review of recent literature on teacher leadership, Poekert (2012) concludes that studies on teacher leadership are more focused on defining the concept than on how teacher leadership is developed, is exercised, and impacts teaching and learning. Moreover, these studies mainly focus on the role of the principal and less on the teacher's role in teacher leadership. The literature mainly describes schools in which teacher leadership is evident and established, whereas few studies have considered schools that are only beginning to recognize teacher leadership or are engaged in a process in which teachers are encouraged to develop their leadership competences (Muijs & Harris, 2006). Few studies look at schools in which the frames of reference that are taken for granted are transformed and new habits of thinking are developed (Ross et al., 2011).

1.3. Transfer of learning and boundary crossing

A Master's program focused on teacher leadership aims to support and strengthen the development of leadership qualities

such that the participants are able to exert their leadership through initiating new developments, supporting decisions through the use of inquiry-based information, and influencing and inspiring their colleagues, principals, and other members of the school community. Such an exertion of leadership requires the transfer of qualities developed in the Master's program to daily practice in the school environment. To understand the transfer process, we must consider theories on adult learning that state that 'a full understanding of adult learning must be a complex one which, rather than seeing learning principally as an individual, cognitive phenomenon, takes into account the interrelationship of many factors in the learning situation, while placing the learner's contexts, purposes and practices at the centre' (Tusting & Barton, 2003, p.7). Thus, the metaphor of transfer has been criticized as being too simple, based on replicative conceptions of learning, and as being disconnected from complex contextual factors that influence the dynamics of the transition between the activity systems involved (Engeström, 2001). In the case of a master program for teachers these are: the university (the learning context) and the school (the work context). Boundary crossing must take place between these two activity systems (Hager & Hodkinson, 2009) while the transition between learning context and work context must be understood as dynamic and complex (Tuomi-Gröhn & Engeström, 2003). The two contexts influence each other and both contribute to the learning process of the participant, who acts as the bridge between the two settings (Beach, 1999).

This perspective implies that creating favorable conditions for effective application of newly developed leadership competences in schools is the responsibility of not only the program designers at the university but also of the key stakeholders in the school.

Theories on transfer that have been developed in the context of the human resource development sector can help to understand the dynamics of leadership learning for teachers. In addition to program design factors—such as objectives, methods, and opportunities for practice—and learner characteristics—such as ability, skills, personality and motivation to apply the learned competences and skills in their daily work, recent studies on the transfer of learning have emphasized contextual factors which are related to the work environment as important elements that have an impact on the transfer of learning (Blume, Ford, Baldwin, & Huang, 2010). Work environment factors are characteristics of the workplace that influence the extent to which the organizational context invites and supports learners to use their learned competences and skills. Such factors recognize certain entrenched values, beliefs, and assumptions at the workplace that can prevent effective transfer (Bunch, 2007). Arthur, Bennett, Edens, and Bell (2003) emphasize 'environmental favorability' as 'the extent to which the work environment is supportive of the application of new skills and behaviors learned or acquired' (p. 242).

1.4. Organizational transfer climate and teacher leadership

Successful transfer requires an organizational context that effectively supports transfer (Hatala & Fleming, 2007; Lim & Morris, 2006; Rouiller & Goldstein, 1993). This context is referred to as the organizational transfer climate: the social support structure for learning that exists within an organization (Cheng & Ho, 2001; Hatala & Fleming, 2007). The literature on organizational transfer climate identifies a number of elements in the work environment that are considered predictive factors for the transfer of learning in the workplace. Burke and Hutchins (2007) emphasize the importance of alignment between the aims of the learning program and the strategic direction and human resource policies of the organization. Broad and Newstrom (1992) suggest a partnership between learners, program supervisors, and work supervisors to facilitate

this alignment. Rouiller and Goldstein (1993) and Baldwin and Ford (1988) indicate the importance of situational factors that stimulate the application of newly developed competences in the workplace. These factors include recognition, reward systems, and accountability systems, as well as the extent to which learning and professional development are perceived as an integral part of work performance, a useful investment, or a costly and time-consuming burden (Bunch, 2007; Clarke, 2002; Tracey & Tews, 2005). Several studies note the practical conditions in daily work routines that support application in the workplace, such as a reduced workload to allow the practicing of new skills, a short time interval between learning and application, a match between program content and work roles, and the availability of the equipment and autonomy necessary to adapt working procedures (Baldwin & Ford, 1988; Blume et al., 2010; Clarke, 2002; Lim & Morris, 2006; Mikkelsen & Grønhaug, 1999). Supervisors and colleagues in the workplace play a crucial role through the support and feedback that they provide, the expectations that they have, and the involvement that they demonstrate (Baldwin & Ford, 1988; Clarke, 2002; Tracey & Tews, 2005).

When we consider transfer of learning as a dynamic and complex process, where the two activity systems of school and university influence each other, we cannot consider the organizational learning climate as static. Especially in the context of a Master's program focused on teacher leadership, we expect participants in the Master's program not only to develop their leadership qualities, but also to apply those leadership qualities in the school, and thus to influence the organizational transfer climate within the school. In that context, a two-way process takes place in which not only the competences of Master's students are developed but the application of these newly developed competences in the workplace leads to workplace changes by creating favorable conditions for teacher leadership and contributing to a climate that is focused on organizational learning.

How organizational transfer climate and the application of teacher leadership competences affect each other is relevant from not only an academic perspective but also the perspective of individual participants in Master's programs. If the organizational transfer climate within a school does not support and encourage the transfer of developed competences to the workplace and does not allow room for teacher leadership, and if teacher leaders are not able to change that organizational transfer climate, teachers are likely to become frustrated. Alexandrou and Swaffield (2012) state that when teacher leaders experience a lack of collaboration and acceptance of their work by colleagues, they can become disillusioned and frustrated. This observation implies that the dynamics between the organizational transfer climate and the teacher leader will affect not only the opportunities and motivation for teacher leadership but also the job satisfaction of the participants and their intention to remain in or leave their current job (turnover intention) (Egan, Yang, & Bartlett, 2004; Noe, 1986; Tett & Meyer, 1993).

1.5. Objective and context of this study

The objective of this study was to investigate which elements of the organizational transfer climate in schools are critical to enhancing or hindering the use of the teacher leadership competences that are developed during a post-initial Master's program and to what extent participants were able to influence these.

The context of the study is a post-initial two-year part-time Master's program in teacher leadership competences that has been offered by teacher education institutes in Amsterdam since 2009. The post-initial character of the program implies that participants are experienced teachers who have completed their initial teacher education, have been teaching for several years, and take

the 60 credit program while continuing to teach. The curriculum is focused on developing the knowledge, skills, and attitudes required for teacher leadership, as elaborated in three key competences: entrepreneurship towards innovating teaching and learning, practice-oriented school-based research, and inspiration and support of colleagues. The curriculum's design is intended to connect the participant's learning process with the school's change agenda. School leaders are expected to select accomplished teachers to enroll in the Master's program and to participate in choosing the theme of the teachers' research projects. Assignments are designed such that the participants are encouraged to make a connection with their school context, resulting in an essay or other product that can be shared with their supervisors (e.g., team or department head) and colleagues. The authors of this study are involved in the Master's program as external advisors to the teaching staff, supporting the quality improvement of the program.

We divided our main research question into three sub-questions:

1. What impact does the Master's program have on the development of participants' leadership competences and on their motivation to apply these competences in the workplace?
2. To what extent were the newly developed leadership competences actually used in the workplace in terms of new teacher roles and contributions to school development, and what impact did this application of new competences have on teachers' job satisfaction?
3. To what extent can the use, or lack thereof, of leadership competences be explained by the dynamics between the school's organizational transfer climate and the participant in the Master's program?

2. Focus and methodology

2.1. Research design

We chose a descriptive research design based on interviews with graduates of the program and their supervisors. As the context for our research study (a two-year Master's program focused on the development of teacher leadership) differed from the contexts in which the transfer of learning is typically studied within the human resource development sector (short training-oriented course designs focused on skills in commercial sector organizations (Blume et al., 2010; Clarke, 2002)), it was necessary to be open to new elements that might influence the transfer as it occurs within educational contexts. Thus, we used semi-structured interviews. As the participants had been immersed in the program and their perceptions about competence development and transfer opportunities might only be 'evidence that they had learned to talk the talk' (Ross et al., 2011, p. 1217), we utilized their supervisors as an additional source of information.

2.2. Respondents

All graduates in the first two cohorts of the Master's program were asked to participate and be interviewed. All seven graduates in the first cohort and 11 of the 14 graduates in the second cohort agreed. Each graduate was asked to provide the name of the supervisor at their school who was most relevant to his or her Master's studies. In most cases, this individual was their direct supervisor (team or department head), though in some cases, he or she was the school leader. In one case, two supervisors were interviewed. In total, 37 interviews with 38 respondents from 17 schools were available for analysis. After being informed of the interviews' aims and guaranteed anonymity, all respondents gave their consent for the use of their interview data.

The majority (14) of the participants worked as subject area teachers in secondary schools; three worked in vocational colleges, and one worked in an institute that provides in-service education for teachers. Most participants had been teaching for many years, and only three had less than five years of teaching experience when they started the Master's program. Half of the participants and two thirds of the supervisors were male. In the analysis of the data, no significant differences were observed among these subgroups.

2.3. Variables and instruments

To answer the three research questions, the variables were translated into indicators and codes using the theory on the transfer of learning and teacher leadership (see Table 1).

We used two indicators to answer research question 1: the development of leadership competences (as experienced by participants and recognized by supervisors) and the motivation for transfer (at the start of and after completing the program).

To answer research question 2, the transfer of developed competences to the workplace was measured as the extent to which participants gained new formal or informal roles within the school, their concrete contributions to school development, and their job satisfaction.

Finally, we used indicators derived from the literature on transfer to measure (change in) the transfer conditions that were provided by the organizational transfer climate (research question 3).

The data were collected through individual semi-structured interviews that were conducted in two sets four months after graduation (February–June and October–December, 2011). The interviews were based on an interview protocol derived from Table 1. Each interview lasted 60–90 min on average. As the participants and supervisors were interviewed four months after finishing the Master's program, the interviews were retrospective in their focus, looking at changes and conditions during the two-year

Master's program and considering the leadership qualities and roles that the participants already had before starting the program.

2.4. Data analysis

The interviews were recorded and transcribed. The transcriptions were analyzed using a two-step approach to develop the coding scheme. The first coding scheme was based on the literature and followed the indicators in Table 1. A first reading of a subset of interviews resulted in a more detailed understanding of the possible impact of the Master's program and the conditions for transfer. This procedure resulted in a final coding scheme that included 29 codes to facilitate detailed analysis (see Table 1; the added codes are marked with asterisks). Each interview was coded by the first author using the coding scheme and MAXqda software for computer-assisted qualitative data analysis. To enhance the validity of the analysis, the outcomes of the interpretation were audited by having the codes of randomly chosen fragments checked in a peer review by a researcher familiar with this field (Kvale, 2007). All codes were discussed until agreement on the coding was established, and the coding of the fragments was adjusted in accordance with that discussion.

The analysis of the coded interviews was performed by alternating between within-case analyses of each interview and cross-case analyses (Miles & Huberman, 1994). Each separate interview was analyzed, looking for themes and patterns in the responses. Next, a cross-case analysis was conducted, looking at all responses on a specific code to determine an overall observation of each theme.

To answer the third research sub-question ("To what extent can the use, or lack thereof, of leadership competences be explained by the dynamics between the school's organizational transfer climate and the participant in the Master's program?"), the participants were divided into four categories based on their responses on the four codes concerning transfer (new roles, impact, satisfaction, and

Table 1
Variables, indicators, and codes used in this study.

Variables	Indicators	Codes
Competences and motivation (Q1)	Leadership competences	<ul style="list-style-type: none"> • Self-efficacy of the participants with respect to the key competences of the program. • Use of new competences as recognized by the supervisors
	Motivation for transfer	<ul style="list-style-type: none"> • Initial motivation to use competences in the workplace • Final motivation to use competences in the workplace
Transfer of competences developed in the Master's program to the workplace (Q2)	Impact of the Master's program	<ul style="list-style-type: none"> • New roles in school • Impact on school development*
	Satisfaction of participants	<ul style="list-style-type: none"> • Job satisfaction • Turnover intention
(Change in the) Organizational transfer climate (Q3)	Strategic alignment of the Master's program with the school's agenda	<ul style="list-style-type: none"> • Who took the initiative? • General expectations
		<ul style="list-style-type: none"> • Arguments in the decision to facilitate the participant* • Relation to wider HR policies • Existence of a learning culture* • Compulsiveness of CPD activities* • Recognition within the school
	Situational cues	<ul style="list-style-type: none"> • Accountability for using leadership competences • Work routines that invite the use of leadership competences • Favorable working conditions and facilities • Autonomy to arrange work routines • Discussions/interaction on content and outcomes
		<ul style="list-style-type: none"> • Expectations • Social support • Feedback
	Opportunities to use or constraints on using	<ul style="list-style-type: none"> • Active involvement in program activities • Discussions/interaction on content and outcomes • Expectations • Social support • Feedback
	Role of supervisor	<ul style="list-style-type: none"> • Expectations • Social support • Feedback
Role of colleagues	<ul style="list-style-type: none"> • Expectations • Social support • Feedback 	

*Codes added after the first analysis.

turnover intention). The responses on these codes were assigned numerical values ranging from zero (low, negative) to two (high, positive). Based on the sum of these values, participants were ranked from high to low levels of transfer. For the last category, the responses on the final motivation for transfer were used to make a distinction between a high or low ambition for applying the leadership competences in the workplace. This procedure resulted in four groups of participants:

1. Participants with a high level of transfer
2. Participants with a medium level of transfer
3. Participants with a low level of transfer but a high level of ambition
4. Participants with a low level of transfer and a low level of ambition

To ensure reliability, this grouping was validated by a member check by the participants (respondent validation: Creswell, 2007) and by three independent experts, each of whom categorized three interviews. Based on these checks, the fourth category was reformulated as: 'Participants with a low level of transfer and a limited ambition to apply their leadership competences beyond their own teaching.' In addition, one participant was placed into another category.

The responses of the participants in the first three categories were compared in a cross-case analysis to identify patterns in dynamics between the organizational transfer climate and participants' teacher leadership. The fourth category was omitted from this part of the analysis because for this group, a low level of transfer could be explained not only by organizational aspects but also by a limited ambition to apply their competences beyond their own teaching. For space considerations, in Section 3.3, we present only the results for the first and third categories of participants.

3. Results

3.1. Development of leadership competences and motivation for transfer

3.1.1. Development of leadership competences

In their reflections, all participants indicated they had developed a stronger awareness of pupils' individual needs and a deeper understanding of theories on teaching and learning. Participants used these theories to analyze practices in school, ground their interventions in the classroom, design curricula, and collaborate with school leaders and colleagues. Several participants stated they had developed a more critical and analytical attitude toward assumptions and practices in their school. Five participants reported that they feel more confident in research activities and that they tend to include inquiry into processes of curriculum change and innovation. These participants have also developed a broader perspective on teaching and learning, as well as on school organization and development. Most participants indicated they have become more confident in addressing, supporting, inspiring, or convincing their colleagues. They also indicated that they have become more proactive and entrepreneurial. However, three participants stated that they still feel insecure in their role of inspiring and convincing colleagues and supervisors.

Supervisors confirmed that the participants have developed their knowledge and a broader perspective on teaching and learning and that this development has increased their confidence and strengthened them in their roles of inspiring colleagues. However, some supervisors also expressed concern about the competences of the participants as inspirers and communicators and their confidence in addressing colleagues.

3.1.2. Motivation for transfer

The initial motivation of all participants to participate in the Master's program was primarily personal: to break out of the routine of their teaching, to find theoretical justification for their intuitive assumptions in their teaching, to be challenged, or to compensate for limited or poor initial teacher education. The decision to choose this particular Master's program was also based on personal decisions not to develop their career toward management roles but to engage in a program that was closely connected to their daily practice. One third of participants explicitly mentioned transfer motivations focused on improving their teaching performance and the learning of their pupils, whereas one third indicated they wanted to contribute to school development beyond their classrooms.

After finishing the program, all participants were highly motivated to apply their new knowledge and skills in their daily work at their schools. The motivation to use their expertise beyond the classroom had increased considerably, as 14 respondents stated that they are now eager to support their colleagues, contribute to curriculum development, or contribute to the development of the school as a whole.

I want to go beyond my classroom. The atmosphere I've created in my classes, I want that outside the classroom too. We've discussed it within our team and they were eager: 'This is something concrete we can work on together.' That's just fantastic; that gives me energy. (PART13)

3.2. Transfer of leadership competences: participants' roles, work, and job satisfaction

During or after the Master's program, six participants were given new formal roles in which they are challenged to use their new abilities. These roles include chair of a school-wide innovation team, teacher researcher, coordinator of language policies, educational expert, and school-based teacher trainer. Two participants were given new informal roles with a stronger involvement in cross-curricular issues or as a sparring partner for their supervisor.

For 10 participants, there was no change in their role at school. Seven of the participants experienced this lack of change as frustrating and as a lack of recognition by their supervisors. Some supervisors justified this lack of change in roles by stating that the Master's program already puts considerable pressure on the participants. One participant was even excused from performing a coordinating task to reduce his workload. These supervisors indicated during the interviews that now (six months after completing the program) was the time to reconsider roles.

Most participants and their supervisors (13) reported a variety of ways in which participation in the program had impacted the school, from changes in teaching methods school-wide, to the creation of learning communities, the start of new projects, and changes in the organizational structures. Two supervisors mentioned that they now have new experts at their disposal who can play a major role in school development.

'The research that is done within the school creates ripples in the pond, which will affect colleagues in her team' (SUP15).

Most participants (12) indicated that they are not entirely satisfied with their jobs. Several participants said that they want to play a more prominent role in their school but lack the time to do so due to a heavy workload. For some participants, this lack of time is related to a lack of recognition. Other participants reported that they are not in the position to use their expertise in the school or cannot implement the theme of their Master's thesis.

I feel that I've reached the ceiling. I want to do more with the things I developed. I really enjoyed the program and I learned so much.

And then just to get additional teaching hours ... I love it, but I didn't do all that writing just for this. (PART8)

Some were struggling with the organizational structure, as they felt restricted by hierarchy, rules, and the decisions of management, which prevent them from playing the role they want to play.

The structure of the school is such that either you are a teacher or you are in the management. And I don't want to be part of the management. So if they'd structure things differently, I could have a different and better role. Now, I just do many things on my own initiative, giving unasked-for advice, et cetera. (PART2)

The participants' satisfaction or dissatisfaction is reflected in their intention to look for a new job. Five participants stated that they had no intention of leaving their schools, as they had been given new and challenging opportunities. Eight indicated that they might change jobs if an interesting opportunity arose or if they would not receive more professional freedom or more recognition in terms of non-teaching hours or an increase in salary. Four said that they were actively looking for other jobs in which they could use their new competences. These participants were especially seeking jobs in which they could combine being a regular teacher with educating new teachers, supporting colleagues, or participating in research projects.

3.3. Participant perceptions of the dynamics between the organizational transfer climate and their leadership ambitions

3.3.1. High level of transfer (seven participants)

3.3.1.1. *Strategic alignment.* Strategic alignment of the goals of the Master's program and the change agenda of the school becomes visible in the expectations and rationale at the start of the program. For the participants with a high level of transfer, the **initiative** to enroll in the Master's program was a combination of individual initiative (five participants) and an active invitation from their school leader or supervisor (five participants). School leaders or supervisors invited the participants either because they knew that these teachers had reached their peak and needed new challenges to keep them engaged and motivated or because they felt the need for teacher leadership and specialist expertise in their schools and recognized the potential of these teachers.

It was a joint initiative: the school leader and me together. I was looking for a course that would allow me to develop myself, and he suggested this one. [...] I want to improve myself and I want to contribute to the improvement of the school. (PART15)

The initial **expectations** expressed by the school were general in respect to school development: it was expected that investing in the professionalism of teachers would have an impact on colleagues and the school as a whole.

The simple thing is that when three teachers are doing such a Master's program, it will have an effect on all the others. I can see it in this school, but I can't express it in figures. (SUP15)

The **reasons to facilitate the participant** remained implicit in most cases. Three participants experienced this implicitness as a token of underlying mutual trust between participant and school leader. Two participants considered the implicitness of expectations to be problematic; they experienced a lack of follow-up on expectations in terms of roles and responsibilities. This lack of follow-up was partly caused by the gap between the top management of the school – which had decided on their participation in the program but had little interaction with the participants during the program – and the middle management responsible for day-to-day supervision, who were minimally involved in the strategic considerations top

management made concerning this Master's program and were instead preoccupied with internal organizational problems.

I think that the school leader has had thoughts about this, but it wasn't really discussed in the management meetings at that time. It was more of an announcement – 'This is something we will use in some way or another' – but it was never really discussed. (SUP2)

3.3.1.2. *Situational cues and use opportunities.* According to the theory of transfer, it is important that the structure and culture of the workplace encourages the application of learned competences (situational cues). According to the respondents, three of the schools have **explicit policies** concerning professional development.

In this way we create an example through which we indicate that we are willing to invest in our teachers. And not only her, but all our teachers. The message is: 'You can do such a course too, and we're willing to invest in that. But it's your decision.' (SUP15)

All participants with high levels of transfer feel that their expertise is recognized within the school. This **recognition** took the form of explicit appreciation for roles, invitations to take on new tasks, autonomy and responsibility in projects, requests for the wider implementation of products and materials the teachers developed, requests to advise supervisors or colleagues, an increase in salary, and facilitation in time. Nevertheless, four participants reported obstacles to having their quality and role recognized, caused by supervisors' preoccupation with day-to-day problems and crises within the school, a lack of time to engage in activities beyond one's own teaching, and inflexible formal structures in terms of available salary scales and criteria for promotion that do not recognize the leadership elements of the Master's program.

She has special qualities and deserves a special position in the school. But it doesn't fit in our structure. I'm looking for ways to change that structure and to create opportunities to recognize her quality through a higher salary level. (SUP15)

Despite their colleagues' or school leaders' growing recognition and expectations, participants do not feel they are held **accountable** for using their newly acquired competences. Accountability within their schools is mostly connected to formal processes of personnel evaluation, but these processes rarely consider the new leadership competences of the Master's-level teachers.

All members of this subgroup had **work routines** that allowed them to use their new competences in a variety of contexts, from working with pupils to contributing to school development on a wider level.

I could combine it perfectly with the daily tasks that I am expected to do. There was a perfect overlap. My study has been my job for the past two years. (PART18)

Two participants had formal roles within their schools as co-ordinators, whereas the other five had informal roles that entailed supporting supervisors or acting as experts within their teams. These roles were considered important conditions for acceptance by their colleagues.

I think that an ordinary teacher will find that the doors of the classrooms of other teachers will remain closed to them. On the one hand, because they can't find the time to observe their colleagues' classes, and on the other hand, because it's not clear that you have a different position. My colleagues expect me to be involved in the development of teaching. (PART15)

All participants in this subgroup had been **facilitated** to complete the program: they had been given a reduced workload of one

or two days a week. In addition to being given time to study, organizational conditions were also considered important. To be able to support colleagues, it was emphasized that it is necessary for participants to have opportunities to meet with colleagues and observe their lessons. As all participants in this subgroup had non-teaching tasks, they had the opportunity to organize these opportunities more easily than participants who had only teaching tasks.

All participants in this subgroup indicated that they have a large degree of **autonomy** in terms of their lessons and in activities that go beyond their teaching role.

I create these opportunities myself or with a group of colleagues. We sit together to talk about professional development policies, and what we want to change. And within no time, we've created a working group.(PART9)

3.3.1.3. Roles of supervisors and colleagues. The supervisors of five participants played an important role as the participants' counterparts. Their **interaction** and **involvement** ranged from discussing the possible impact of the program's content and the participants' research projects on the school to providing feedback on essays and reports.

In some schools, discussions about lectures and essays were powerful sources of mutual inspiration.

Her ideas on school development also gave me new ideas. When we sit down together, we look at teaching and learning in a different way. The quality of these discussions has also led me to new insights. (SUP15)

The supervisors in other schools stated that they had not spent a sufficient amount of time discussing the content and outcomes of the Master's program with their participants due to changes in leadership positions, which led to a lack of ownership of the program.

All participants in this category reported feeling that their supervisors showed an interpersonal interest in the progress of their studies and provided **social support**. The supervisors of three participants had expressed explicit **expectations**; for example, they expected the participants to challenge their colleagues and to take the lead in educational innovations. Most participants were encouraged by the useful and positive **feedback** that they received. This feedback focused on how they communicated with colleagues and how they created support, engagement, and ownership within the team.

I try to coach him in the fact that he has undergone a development, and that his colleagues haven't. That's something he isn't always aware of. He has to learn how to deal with that. (SUP9)

With respect to the roles of colleagues, **interaction with colleagues** depends partially on personality: some participants appear to have a burning enthusiasm to share their new insights into educational issues with colleagues and to challenge them by initiating dialogues, whereas others are more hesitant to share their knowledge and feel they have to limit the information they share with colleagues.

Both participants and their supervisors are aware of the dangers of an increased difference in thinking between the participant and the remainder of the team, which can hinder discussions with colleagues.

When you don't make a policy, the good ones become better, and the others stagnate. So the divide deepens, which is a problem. She acts, thinks and communicates at a certain level, while the others think that she's got weird ideas. If we can't bridge that gap, I sometimes wonder what we are doing to her. (SUP15)

Both participants and supervisors stated that in their schools, it is not common for teachers to discuss teaching, learning, and pupils. However, in several schools, initiatives have been taken to stimulate the dialogue on teaching and learning by initiating peer review and collegial classroom visits. Several participants play a key role in these initiatives, motivated by the Master's program. The team structure that has been introduced in most schools provides a good platform for these endeavors. Participants reported that within these teams, they feel recognized for their expertise, partly based on their new formal or informal roles, leading to new **expectations**. However, as these teams are located within hierarchical structures, the position of teacher leaders can be problematic.

The seven participants all said that they experienced **support** from colleagues in the form of contributions to brainstorming sessions, colleagues taking over daily tasks, willingness to contribute to questionnaires and interviews, personal support and interest, and supportive **feedback**.

3.3.2. Low level of transfer and high level of ambition (five participants)

3.3.2.1. Strategic alignment, situational cues, and use opportunities.

All participants in this subcategory started the Master's program on their own **initiative**. Both the participants and their supervisors indicated that at the start of the program, no explicit **expectations** with respect to roles and impact had been expressed. For most participants, the school's expectations were restricted to personal development, indicating that the Master's program was not embedded in the strategic agendas of the schools and would not lead to new roles during or after the Master's program. In the **arguments** that were used by the schools that supported their teachers, no connection was made with school development or the school's innovation agenda.

Three schools had explicit **policies** on the professional development of teachers, but only one made an explicit reference to Master's qualifications.

This group felt little or no **recognition**, as their supervisors were preoccupied with daily problems and crises within the school or lacked appreciation for theories on learning. Several participants indicated that they feel that they have to fight for recognition by school leaders. For example, some participants sent their essays and publications to their supervisors. One participant expressed the fear that everything would be 'back to normal' again after graduation.

I have the feeling that I'll have to fight not to sink back into oblivion. After graduation, I'll have the feeling: 'Damn, I'm all on my own.' Everything will go back to normal, like nothing has happened. We've had our party; finished! But that must not happen; that can't be allowed. It would be a waste of money, energy, time and expertise! (PART5)

This finding also implied that participants are not held **accountable** by the school for using the competences they developed during the Master's program.

The **work routines** of this group gave the members limited opportunities to use their newly acquired competences. Two participants indicated that they could use their new competences only within the context of their own teaching. The other three participants also indicated that opportunities only existed in curriculum development and with the colleagues on their team. Three of the participants had no formal or informal leadership position within their team.

In terms of **working conditions**, the participants in this subgroup had a limited reduction in teaching hours. Some had the minimum reduction of half a day, as provided by the ministry, but even had to fight for that. One participant paid the course fee

herself. As most participants did not have any non-teaching tasks, they reported problems with finding opportunities for team meetings.

What I actually need is more time with my colleagues. When you realize that we don't even have a weekly meeting moment, you can understand that most has to be done in the corridors and in between classes. (PART7)

For this subgroup, their **autonomy** is restricted to their teaching and classroom contexts. As a result, some used their entrepreneurship to create new opportunities outside the school, for example, by joining the board of a national professional association for vocational teachers.

3.3.2.2. *Roles of supervisors and colleagues.* About half of the participants indicated that they had few **discussions** with their supervisors or had discussions only when they insisted upon them.

I asked whether they wanted to read it, but I always got an evasive answer: 'If it's not too long... Is it useful to me ...?' These kind of remarks don't give you the feeling: 'Wow, this is what they've been waiting for!' (PART7)

The supervisors had few **expectations**. One indicated that he and his team were not interested in theories but only in practical solutions, whereas three participants suggested that the academic level of the program made it difficult for them to consider their supervisor as a serious partner. The supervisors were minimally **involved**: both supervisors and participants indicated that the pressure on supervisors to attend to organizational and administrative matters prevented them from spending time on discussions related to teaching and learning.

The participants in this subgroup did not receive strong **support** from their supervisors. Although the supervisors reported that they give **feedback** during formal performance evaluations, the participants indicated that they received no feedback on their performance related to the Master's program or to their leadership competences. In some cases, the feedback was felt to be counterproductive.

With all those references to literature: that's something that our teachers are not interested in. He was a bit disappointed when I told him that. (SUP14)

With respect to the role of colleagues, the participants indicated that **discussions** with colleagues were hindered by a lack of opportunities for professional dialogue and by work pressure within their schools.

The teachers' room, which would be the place for exchange, is a very casual place where people run in and out and have little chats, but no complex discussions. [...] It is not a place where you would take time to have extensive debates or where I can really tell my colleagues about an interesting and fascinating lecture I attended. (PART2)

Some participants reported receiving hostile responses to their research plans from colleagues. They were not given opportunities to observe their colleagues' teaching, and attempts to inspire and challenge their colleagues were not always welcomed. **Social support** was mostly restricted to a small core of befriended colleagues.

At the same time, the **expectations** of colleagues were heightened due to an increase in the participants' professional authority as experts in educational issues.

It's as if your colleagues see you differently. Like you've become some kind of authority. But at the same time it feels uncomfortable

that they give you that role, as I'm not always sure that I'm able to play that role. (PART5)

Only two participants in this group received **feedback** from their colleagues. They blamed this limited feedback on the lack of a feedback culture within their schools, where critical feedback on performance within the team or on processes of school development is rarely given.

4. Discussion

The use of interviews as the main source of data gathering created opportunities for a detailed understanding of the respondents' perceptions of the successes and failures in the transfer of leadership competences to the workplace, as well as the factors of organizational transfer climate that influenced this transfer. At the same time, this approach created limitations, as only two participants from each school were interviewed on the organizational transfer climate of the school. Furthermore, the use of self-reporting as the main source of data gathering limits the generalizability of the findings. Finally, given the interviews were only held four months after completion of the master course, no conclusion can be drawn with respect to the sustainability of the transfer of learning.

Considering these limitations, the results of this study indicate that within the context of this Master's program, the transfer of leadership competences to the workplace is not self-evident. Although almost all participants and supervisors indicated that the participants had developed teacher leadership competences during the Master's program and all participants felt motivated to share their new insights with colleagues and to use these competences to contribute to their school's development, the impact on roles and school development varied.

Within most of the schools where the transfer was effective, the Master's program is used as a strategic tool for both school improvement and personal development. Most participants in these schools feel recognized by their supervisors. They are engaged in active dialogue with their supervisors about their roles in developing the school and their team. The supervisors and participants appear to have developed strategic partnerships focused on changing the school culture and improving teaching and learning in the school. Although there is little experience with informal leadership in their schools, the participants can claim leadership and they are granted formal or informal leadership positions. Through engagement in non-teaching activities, they have opportunities to interact with their colleagues via observation, dialogue, or support. In two schools, the participants were able to apply their leadership competences in new roles but reported limited recognition and a lack of time. As they felt a lack of support from their supervisors, both left their school six months after graduating.

In the schools of participants who exhibited a low level of transfer, the Master's program was viewed as a tool for personal development and not for school improvement. The participants felt isolated within their schools. As they had no formal roles beyond their teaching tasks and few opportunities to meet and talk to colleagues, they felt that they could only use their new competences in their own teaching and in developing their lesson plans. They struggled with the school cultures, which were focused on delivering lessons, allowed little room for critical discussions, and considered research and theory to be non-productive in the daily work of teachers. These obstacles motivated several participants to look for a new position at another school that recognized teacher leadership.

Our analysis demonstrates that this variation in levels of transfer and in the satisfaction of graduates of the Master's program is

closely related to the organizational transfer climate of schools in terms of strategic alignment, situational cues, use opportunities, and support from supervisors and peers. However, the analysis also indicates that through their leadership roles, the Master's graduates can inspire their supervisors and support and stimulate collaborative learning within their teams. Through these activities, part of the participants contributed to a change in expectations and an acknowledgment of informal leadership and redefined roles of formal and informal leaders in the school. In this way they contributed to a change in the organizational transfer climate within their school.

This illustrates the dynamics between the organizational transfer climate and the participants in the Master's program, as on the one hand the organizational transfer climate seems to support or hinder transfer of leadership competences, while on the other hand participants who show high levels of transfer are able to influence elements of the organizational transfer climate. They initiate a culture of peer learning by stimulating peer observation, peer feedback and collegial learning, they actively engage colleagues in their research projects, they gain respect and recognition by sharing their expertise, they stimulate team development and inspire their supervisors. The extent to which these participants in the Master's program are able to change the organizational transfer climate depends on several factors:

- The strategic partnerships between formal and informal leaders. This partnership is essential, as leadership is something that must be both claimed and granted (DeRue & Ashford, 2010). Without such partnerships, informal leaders face professional isolation and cannot exert their leadership and initiate new developments influencing the content, structure and culture of the school.
- Opportunities to meet and support colleagues: The impact of teacher leadership on colleagues depends strongly on whether the opportunity to meet colleagues to discuss issues or to visit classes exists. Participants in schools with a low level of transfer are fully occupied with teaching tasks, which limit them to act beyond their own classes and to influence supervisors and colleagues.
- Strategic sensitivity of teacher leaders. As teacher leaders are part of the organizational transfer climate, they have the opportunity to influence this. To change an organizational transfer climate which is not supportive of transfer is a complex challenge which asks for strategic skills.

In some schools, the conditions for developing teacher leadership appeared favorable at the start of the program; however, eight of the 18 participants had a change of supervisor or school leader during the program, which impeded the development of a consistent policy in the school. Alignment between school levels is also problematic when a school leader and team leader have different perspectives on the goal of the Master's program. These different perspectives can lead to contradictory and confusing expectations of participants in the Master's program.

5. Conclusion

The participants in this study indicate that many of their schools give little or no priority to research, theory, innovation, development, or organizational learning. These schools understand professional development through a Master's program as an individual activity unrelated to school improvement. This study demonstrates that the organizational context is an important factor that influences the impact of Master's programs focusing on teacher leadership: when a changed teacher returns to an unchanged

school, the result is a teacher who is frustrated and drops out. From the perspective of an individual Master's-level teacher, dropping out is not necessarily problematic, as it can create opportunities to move on or move up, but from the perspective of school development, opportunities are lost. This finding has implications for educational policies that are focused on increasing the number of Master's-level teachers in schools with the intention of stimulating school development, as these policies also have to address the leaders and organizational transfer climate of the school.

In our study, we identified schools that would likely not consider themselves as schools with perfect transfer conditions in terms of their organizational transfer climate, but where a partnership of a formal and informal leader was created in a joint attempt to change the school climate into an open one with a focus on organizational learning. In such schools, the transfer of learning is a two-way process where the application of newly developed competences in the workplace leads to workplace changes by creating favorable conditions for teacher leadership and contributing to a climate that is focused on organizational learning. This finding demonstrates that whereas teacher leaders can act as change agents in their schools, the organizational transfer climate cannot be viewed as a static condition that supports or hinders effective transfer but must be viewed as dynamic and influenced by effective transfer.

If we want this two-way process to take place, we need to fundamentally rethink the design of Master's programs. In traditional in-service courses and qualification program, the design is characterized by two separate activity systems: the university and the workplace of the school. Boundary crossing must take place between these two activity systems. The link between both activity systems must be made by the teacher acting as the boundary crosser, participating in the Master's program at the university and working at the school at the same time. This link is weak when these teachers are the only such boundary crossers and are not supported in this boundary crossing (Snoek, 2013). This finding suggests redesigning Master's programs in such a way that they recognize the key role of supervisors, the importance of opportunities to collaborate with colleagues and the necessity of strategic skills of teacher leaders. In the design of Master's programs it seems essential to involve program leaders, participants, school leaders, and supervisors in boundary crossing activities, bridging the gap between traditional off-site qualification programs and on-site professional and school development.

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