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Workplace conditions for successful teacher professional development: School principals' beliefs and practices

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Abstract

Research has increasingly shown that school principals exercised a significant role in teacher professional development (TPD). Nevertheless, the insights into the particular influence they exert in this process and how it is exercised still need to be developed. This article focuses on what school principals consider important working conditions for TDP and which leadership practices they use to realise these conditions in their schools. Using a multiple case study design, including 20 semi-structured interviews with primary school principals, the findings show that they consider both structural (sufficient time and evaluation of TDP interventions) and cultural (an open work climate and collaboration) conditions to be important for TDP. Additionally, school principals emphasise the significance of teachers' learning attitudes, differentiation in professionalisation efforts and knowledge sharing in their schools. Furthermore, the results highlight that they have trouble in realising these working conditions, especially those for internal learning activities (such as an open work climate). Based on the results, recommendations are made for further research and policy makers concerning the preparation and support that principals need to realise (internal) TDP in their schools.

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1 | INTRODUCTION

The relevance of teacher professional development (TPD) has been widely recognised in the last few decades and is seen as contributing to both school improvement and educational change (Guskey, 2003; Hattie, 2009). Moreover, research has consistently shown that TPD can lead to significant improvement in teachers' competences, self-efficacy and job-related motivation (Borko, 2004; Gilles, Davis, & McGlamery, 2009). Despite these benefits, recent empirical studies have shown that the transfer of professional development to the workplace was difficult and that TPD interventions often had limited success with regard to the improvement of teachers' practices, especially in the longer term (Desimone, 2009; Timperley & Alton-Lee, 2008). Several studies have demonstrated that, besides the features of the TPD intervention itself, the embedding of those learning activities in the school organisation was particularly important to maximise its success and sustainability (Cordingley, 2015; Snoek, Enthoven, Kessels, & Volman, 2015; van Veen, Zwart, & Meirink, 2012).

Although research has emphasised the relevance of workplace conditions for the transfer and sustainability of TPD interventions, most studies have only focused on their effects (Cordingley, 2015; Opfer & Pedder, 2011). Specifically, the research on TPD thus far has failed to untangle the particular relationship between TPD and the local work conditions (such as sufficient time, resources and a collaborative culture) and how these are enacted by principals (Cordingley, 2015; Opfer & Pedder, 2011). More in-depth and systematic research on the integration of TPD in the school organisation, and particularly on the workplace conditions that are conducive to facilitating the transfer of TPD within the school is called for. Principals play an important role in this respect (Gaikhorst, Beishuizen, Korstjens, & Volman, 2014; James & McCormick, 2009). However, the more concrete nature and features of such an influence as part of the practice of educational leadership have barely been examined. This article aims to complement previous research by analysing the role of school leaders in implementing the workplace conditions for successful TPD and how they create and maintain these in their schools.

2 | THE CONCEPTUALISATION OF TPD

In this article, TPD is conceptualised in terms of the processes and activities that are designed to enhance teachers' knowledge, attitudes and behaviour in order to improve student learning (Guskey, 2003). It focuses on professional development activities in a formal setting both within and outside the workplace because prior research showed no significant differences in effectiveness between either type of intervention (van Veen et al., 2012). Among professional development activities in formal settings outside the workplace, one can mention workshops and seminars and inside the workplace activities study groups and mentoring.

2.1 | Theoretical models

In the last few decades, various theoretical models have been applied to identify the effective features of TPD (Desimone, 2009). The "theory of change", for instance, focuses on the relationship between TPD interventions and how teachers learn and teach, or more specifically, on the specific features that contribute to changes in teachers' knowledge and instruction. Next, the "theory of instruction" addresses the relationship between features of the TPD intervention and expected changes in students' learning and outcomes. And, finally, the "theory of improvement" focuses on the workplace conditions that enable the successful implementation and sustainability of TPD interventions (Desimone, 2009). The focus in this article is on the latter.

2.2 | Workplace conditions

Many studies have been carried out on the workplace conditions that are favourable for teachers to learn and change their practice. They share similar findings on what constitutes important conditions for successful TPD. But more specifically, a distinction is made between structural and cultural conditions that support TPD.

Following Louws, Meirink, van Veen, and van Driel (2017), we define structural working conditions as “the way schools, teachers’ work and teachers’ learning are organised in terms of time, space, resources, workload, task variation, evaluation and feedback, organisational goals and professional development policies’ (p. 773). More specifically, with regard to TPD, “enough time” seems to be a crucial condition that hinders or stimulates its implementation and sustainability. The time to be invested depends on the type of TPD activity (van Veen et al., 2012). Nevertheless, most research concludes that professionalisation activities should be integrated in teachers’ work and need to be sustained and intensive rather than brief and sporadic. Hence, they should include significant numbers of contact hours over a long period. This also has implications for the kind of activities in which teachers should take part. One-time workshops and conferences are less likely to lead to teacher change (Cordingley, 2015; Earley, 2009; van Veen et al., 2012). According to Admiraal et al. (2016), teachers need time to develop, discuss and practise new knowledge. Hence, other authors stress the importance of “protected times” during working hours or a “reduction of teaching tasks”, giving teachers the opportunity to professionalise (Ermeling, 2010). However, spending too much time on TPD may also have a negative impact. Teachers often experience a heavy workload and pressure on professional development can enhance this (Telese, 2008). Besides time, there should be “sufficient resources”. Resources refer not only to material resources such as books and money, but also to social resources such as prolonged coaching and ongoing support on demand (Imants & van Veen, 2010; van Veen et al., 2012). Finally, research has demonstrated the importance of having “clear procedures” for TPD, characterised by a cyclical approach such as the PDCA cycle or more HRM-oriented cycles of conversations about work between teachers and management (Vekeman, Devos, & Valcke, 2016). A cyclical approach in which the school’s situation is evaluated after an intervention and new interventions which are based on previous outcomes seem to be valuable (Kuijpers, Houtveen, & Wubbels, 2010). Hence, there should be enough time and space for teachers to give each other feedback and evaluate the professional development process (Imants & van Veen, 2010). Furthermore, the content of TPD interventions and teachers’ learning processes need to be integrated in the school context (Darling-Hammond & Richardson, 2009). In order to achieve this, it is important for principals to take into account the content of TPD interventions. For instance, several studies emphasise the importance of a central focus on student learning and student results (Darling-Hammond & Richardson, 2009; Timperley, Wilson, Barrar, & Fung, 2007; van Veen et al., 2012). Furthermore, the intervention should be of a sufficient level, clear and concrete and include activating teaching methods (Little, 1982; van Veen et al., 2012).

In the literature, the notion of “cultural working conditions” is often associated with building a shared school culture, aiming for a shared vision, a culture of collaboration, a professional learning climate and collective decision-making (Admiraal et al., 2016; Little, 2006). Concerning TPD, several studies point to the process of “decision making” in the school and underline the value of “collective decision making”. According to Imants and van Veen (2010), making use of teachers’ acquired expertise during TPD in the school decision-making processes can lead to greater involvement. Moreover, TPD proved to be more effective when teachers from the same school or team participated “together” in TPD activities (Bubb & Earley, 2006; van Veen et al., 2012). van Veen et al. (2012) concluded that TPD should target the whole school “team” (instead of individual teachers) and that “all employees should participate”. This “inclusiveness” makes three types of communication possible: interaction, feedback and discussion between colleagues (van Veen et al., 2012). In addition, TPD in which the entire team participates can lead to “shared responsibility”: teachers feel that they are responsible together for the learning processes in the school (Darling-Hammond & Richardson, 2009; Little, 1982).

Furthermore, several studies stress the importance of alignment between the goals of TPD and the general policy or vision of the school (Borko, 2004; Desimone, 2009; Little, 2006). This prevents the isolation of interventions and contributes to the sustainability of professional development activities (van Veen et al., 2012). The

broader (policy) context needs to be taken into account. When political influences are in accordance with the intervention, there is a greater chance that the intervention will be successful (Timperley et al., 2007). Previous research also found that an “open work climate” in which teachers felt safe, free to take initiatives and learn from mistakes and that their new ideas were not condemned by other teachers or the school head was important (Gaikhorst et al., 2014; Kardos & Johnson, 2007; Silins & Mulford, 2002).

Finally, several studies showed the value of good “contacts” in the school and referred to “collegiality” and “collaboration” in relation to TPD (Clement & Vandenberghe, 2001; Shah, 2012; van Veen et al., 2012). Whereas “collegiality” is related to the quality of the relations between staff members, “collaboration” refers to teachers’ cooperation for job-related purposes (Kelchtermans, 2006). Important in this respect is the interaction between teachers. When this occurs in a collegial way it is more effective (Kelchtermans, 2006). Opfer and Pedder (2011) conclude that the intensity of collaboration is also important for effective TPD: too much collaboration is stifling, too little collaboration inhibits change, whereas just enough collaboration gives teachers the feeling of being supported by colleagues. The literature on “professional learning communities” (PLCs) seems to confirm the importance of “collaboration” (Admiraal et al., 2016). PLCs create important conditions for TPD and a sustainable form of teacher collaboration and collaborative learning (Little, 2006). In PLCs, collective reflection, feedback and improvement of the work in the classroom and school are central. Characteristics of such communities are: collaboration, mutual trust, a common vision, shared norms and values and feedback. In addition to “cooperation” and “collegiality”, there must be “mutual respect” and “equal standing” between colleagues. When this is the case, they will learn more from each other (Darling-Hammond & Richardson, 2009).

Table 1 provides an overview of the structural and cultural conditions that have been identified in the literature as important for TPD. Furthermore, “leadership” is considered as a separate category and refers to how school principals influence these conditions (Sleegers & Leithwood, 2010). In many school systems in Europe, principals often play a crucial role in the organisation of teaching and learning (Radinger, 2014). In particular, they can be responsible for creating and maintaining the structural and cultural conditions for TPD (Silins & Mulford, 2002; van Veen et al., 2012). But research on school leaders’ practices is scarce (Harris & DeFlaminis, 2016). It is not known how the workplace conditions needed for successful TPD are actually enacted by principals.

3 | PRINCIPALS’ BELIEFS AND PRACTICES

To conceptualise principals’ “ideas”, we used the concept of “beliefs” which is defined in the Anglo-Saxon literature as the meanings linked to psychological objects or phenomena that are used as a culturally-defined lens through which sense is made of events, people and interactions and that depend on the context of the objects and sense makers (Pratt, 1992). It is important that in this definition “beliefs” depend on the context and the person.

Principals’ actions regarding the enactment of working conditions for TPD are conceptualised by the notion of “practices”. Leadership practice is defined by Leithwood (2012) as a coherent set of *activities* carried out by a person or group of people in a *specific context* in order to achieve shared goals. We followed this theory because we were interested in specific *activities* that principals undertook in *their schools* in relation to TPD. In this study, “practices” refer to specific activities carried out by principals to promote TPD.

4 | THE PRESENT STUDY: PURPOSE AND RESEARCH QUESTIONS

This study addresses the following research questions:

1. Which structural and cultural conditions do principals identify as important for successful TPD?
2. Which leadership practices do principals enact in order to create and maintain such conditions in their schools?

TABLE 1 Workplace conditions that are considered in the literature as important for successful TPD

Condition	Aspects
<i>Structural</i>	
Time	Enough time Not too much time Within the workday
Resources	Support on demand Enough books and materials Adequate monetary support Prolonged coaching
Procedures	Clear procedures Cyclical work process
Content	Appropriate level Active teaching methods Focus on student Integration of content within school context
<i>Cultural</i>	
Contact	Collegiality Respect Shared norms/values Equal standing between colleagues
Work climate	Open climate Room for teachers' own initiatives Provision of feedback
Togetherness	Collaboration Focus on team Shared responsibility Participation in TPD by all employees
Decision making	Collective decision making Common vision Conformity with general vision

4.1 | Design

In order to answer these questions, a qualitative multiple case study was conducted using in-depth semi-structured topic-related interviews with 20 principals from Dutch primary schools (see Table 2). By taking a qualitative approach, the principals could describe their beliefs and practices in detail. Only principals from primary schools were selected in order to have a certain uniformity. They all participated voluntarily and signed a consent statement.

In the Netherlands, like in many other European countries, responsibility for teacher professional development is decentralised to the level of the schools (in the person of the school principal) (Hovius & van Kessel, 2010). The amount of time and money allocated for TPD is determined in a collective agreement. In Dutch primary education, staff members (except principals) spend two hours per week (part-time pro rata) on individual professional development. These hours can also be clustered and used later. Principals receive an average of €500 per FTE for

TABLE 2 Participants' characteristics

Principal	Gender	Years of experience	Number of students
Albert ^a	M	24	±250
Ben	M	13	±240
Cheyenne	F	15	±300
Dan	M	<1	340
Elin	F	5	147
Floor	F	<1	130
Gaby	F	1	435
Haley	F	11	165
Iris	F	3	145
Jo	M	14	350
Karen	F	1,5	±250
Lauren	F	20	±400
Marc	M	22	300
Norbert	M	25	370
Owen	M	35	±500
Pauline	F	1,5	350
Quincy	F	2,5	57
Ronald	M	2,5	760
Sam	M	15	240
Tessa	F	8	255

^aPseudonyms are used.

employees to work on their professional development. However, this does not mean that every teacher is entitled to this budget. Teachers and principals can also apply for extra funding for TPD from the government and sometimes the municipality.

The TALIS report (OECD, 2014) showed that, in comparison with other European countries, teachers in the Netherlands did not feel that the costs and facilitation (in terms of available time) were impeding factors for their participation in TPD.

4.2 | Data collection

The interviews lasted for about one hour and were conducted on a one-to-one basis. They consisted of three parts. In the first, the researcher asked general questions regarding TPD. This gave the researcher an idea of how TPD was conceptualised by the principal and how it was organised in the school. The second started with an open question: "Which workplace conditions are important for teacher professional development?" The interview continued by discussing conditions that had been identified in the international literature, such as "enough time" and "collaboration" (see Table 1). The interviewer asked principals to elaborate on the leadership activities that attempted to achieve these conditions: "How do you create or maintain this condition in your school?"

4.3 | Data analysis

All the interviews were transcribed verbatim to prevent interpretation bias. Each interview was then summarised and sent to the participants for a check on authenticity. In total, 11 principals responded and only one asked for

a small change (a spelling correction). The data analysis was carried out in an iterative process of reading and re-reading of the data, selecting and coding (data reduction) and displaying the data in within-case and cross-case matrices (Miles & Huberman, 1994). Both “in vivo” and “priori codes” were used. The coding was based on our conceptual framework and research questions. A code was assigned to each condition for TPD that the principals mentioned during the interview (such as “teachers” learning attitude’) and to each condition that was known from the literature (for example, “collaboration” and “enough time”). Furthermore, codes for leadership practices (such as “arranging a substitute”) were inductively created, based on the interview data.

To enhance the study’s credibility, many researchers were involved in the analysis. Descriptions of the codes and illustrative data extracts were discussed by a team of four researchers who had backgrounds in both qualitative research and education. Furthermore, for the coding process, the following procedures were followed:

1. All fragments that were difficult to code according to the coder (i.e., first author) were discussed with another experienced researcher from the research team. These were discussed until a consensus was reached and the coding was adjusted to reflect the outcome of this discussion.
2. The interpretations of the first author were audited by a procedure whereby the codes for two (randomly chosen) scored interviews (10%) were checked and discussed in a peer review by another experienced researcher (Miles & Huberman, 1994). A discussion about the differences led to the further specification of code descriptions.

Not only the coding, but also the data matrices (for the within and cross-case analyses) and the different phases and decisions in the research process were checked and discussed with other researchers from the team (Akkerman, Admiraal, Brekelmans, & Oost, 2008). The first author wrote memos and a logbook in which she reflected on important steps and decisions in the research process. These were shared and discussed by the research team. Furthermore, in order not to draw conclusions too soon, we read the data and checked the original data several times and used direct quotes from the interviews to illustrate and support our findings. Also, we searched for disconfirming cases and patterns (Miles & Huberman, 1994; Robson, 2002). This led to more nuanced explanations.

5 | RESULTS

5.1 | Principals’ conceptualisation of TPD

We identified two perspectives when talking with the principals about TPD. First, most conceptualised TPD as consisting of two interdependent parts: personal development and school development which had to be “additive” or “in balance”. Second, the principals differed in their views on the final goal of TPD. Some referred to better student results, whereas others indicated teacher learning as a goal: “It is not always the learning of the student, but also personal and professional development. Teachers often do something that is related to the class, but this is not necessary” (Ian).

5.2 | The organisation of TPD

School-wide study days and team meetings, as well as performance and assessment interviews were organised for TPD at all the schools. In 16 of the 20 schools, teachers were asked to elaborate a Personal Development Plan (PDP) which was discussed in a meeting. There were also (limited) possibilities for taking specific courses individually by request.

In most schools, TPD used both external and internal expertise. However, most principals indicated that, in future, they would like to make more use of the knowledge in their school because there was so much expertise there that it was not (always) necessary to hire (expensive) external experts. Furthermore, they argued that

experts from inside the school knew the specific school context better than those from the outside, which made it easier to integrate their suggestions for improvement within the school.

Five schools were engaged in setting up a “Professional Learning Community” (PLC) in which teachers collaborated to achieve common goals linked to student learning. In total, eight schools had a specific school-wide plan for TPD. In schools without such a plan, TPD was sometimes included in an overall general school plan. Principals of schools with no plan had different rationales for not having such a plan. Some mentioned that there was no need to make a separate plan because teacher professional development was already integrated in the general school plan. Others indicated that they wanted to have a plan but did not have the time to make one. “There should be such a plan [for teacher professional development]. However, there are some things that you cannot do [as a principal] because there are so many things to do, I have to choose” (Marc). In total, 19 of the 20 principals worked at a school that was part of an overarching school board or foundation and some of these boards had an “academy” where teachers could participate in training courses.

5.3 | Principals’ beliefs regarding structural and cultural conditions

Tables 3 and 4 give an overview of the number of principals who considered different structural and cultural conditions that were known from the literature to be important for successful TPD. For analytic reasons, a distinction was made between structural and cultural workplace conditions. However, in practice, they are not completely independent.

Concerning *structural* conditions, almost all principals (18 out of 20) referred to the value of “enough time” for TPD. “You should definitely make time for it, because if you think it will happen automatically, without time, then it will not work” (Elin). Most believed that extra time would help teachers to participate in professional development activities since many experienced a heavy workload that complicated participation in TPD. In addition, most

TABLE 3 Structural conditions that were recognised from the literature and considered by principals to be important for TPD

Structural condition	Number of principals (total N = 20)
<i>Time</i>	
Sufficient time	18 ^a
Not too much time	7
During working hours	8
<i>Resources</i>	
Support on demand	13
Sufficient books and materials	8
Money	12
Prolonged coaching	9
<i>Procedures</i>	
Clear procedures	15
Working cyclically	17
<i>Content</i>	
Sufficient level	13
Active teaching methods	12
Focus on student	12
Content integrated in school context	16

^aThe counts are “if ever in the interview mentioned by a principal”.

TABLE 4 Cultural conditions that were recognised from the literature and considered by principals to be important for TPD

Cultural condition	Number of principals (total N = 20)
<i>Contact</i>	
Collegiality	7 ^a
Respect	16
Shared norms/values	13
Equivalence	10
<i>Work climate</i>	
Open climate	20
Room for initiative	17
Providing feedback	18
<i>Together</i>	
Collaboration	17
Focus on team	12
Shared responsibility	16
All employees participate	11
<i>Decision making</i>	
Collective decision making	10
Common vision	11
In line with general vision	11

^aThe counts are “if ever in the interview mentioned by a principal”.

principals underlined the importance of a “cyclical work process” for TPD: “Otherwise, it does not remain, if you only have two or three seminars a year, which are scattered throughout the year, you have already lost all the information from the seminar before” (Owen). In most schools, the topics that were discussed during TPD were revisited in follow-up activities (such as team meetings). Almost all principals (17) stressed the importance of systematic monitoring and evaluation for sustainable professional development (and more largely, school development): “You have to evaluate, is this team professional development what we had in mind? How do we proceed?” (Tessa). Furthermore, most believed that “clear procedures” were important for TPD: “If the procedures are not clear, you cannot ask the utmost of your teachers. Then teachers cannot find any information, there are no clear rules for providing substitute teachers, etcetera” (Dan).

Furthermore, most principals referred to “integration of the content within the school context” as an important condition. They emphasised that the topics addressed by teacher professional development needed to match the population and school type. However, for individual training, it could be somewhat different. For instance, one principal explained that his teacher took a dance class which was not necessarily required for the school or integrated in the school context, but gave the teacher energy, so the principal believed that it was also good for the students and the school.

An interesting finding was that the principals had different beliefs regarding the central focus of TPD. Most (12 out of 20) agreed on a central focus on the “student”. However, another group (eight in total) disagreed and mentioned that TPD was also valuable for broader topics, such as the teacher’s identity and learning processes, parental meetings and the school organisation: “It [TPD] may also be about teachers’ learning process. And then it is not directly related the pupil. It refers to my own development, what is in the end for the benefit of [the students]” (Gaby).

Concerning the *cultural* conditions, all the principals emphasised the importance of an “open work climate” in which new initiatives were not condemned and colleagues respected each other. “It is important that people feel

safe to learn. That they are allowed to make mistakes. That there is no culture of blame. So that you really feel safe to further develop yourself" (Tessa). The principals perceived an open work climate as the basis for professional development: "In a work climate that is not open, you cannot come to professional development, it is the basis" (Albert). Furthermore, "provision of feedback" was considered to be an important cultural condition. However, many indicated that appropriate feedback was not always provided in their schools. "Many people have difficulties with giving feedback..... You have to learn how to do that..." (Cheyenne). Most principals (17 out of 20) also believed that "room for initiative" was important for TPD. All indicated that they highly appreciated teachers' own initiative related to TPD. However, this does not always happen: "It would be so nice if teachers come up with things themselves. Those are the gifts. But, I have not seen this here myself..." (Dan).

Most principals believed that "collaboration" was also important for TPD. They noted that it was especially important in the case of team training. The value of "shared responsibility" was also underlined: "All teachers participate in professional development, yes, because when you work together on a larger item, you show that you think it is important that everyone makes a contribution and that the common focus is on improvement". (Lauren).

5.4 | Other conditions

Several other conditions were also frequently mentioned by the principals in relation to TPD. Most (14 in total) perceived that teachers' learning attitude was important. They stated that some of their teachers could reflect on their performance and wanted to further develop themselves, whereas other teachers did not. The principals believed that they had a limited impact on teachers' learning attitude or did not know how to manage this; in their experience, a learning attitude is something that comes from the teachers:

I think this is the hardest part of professional development. We can introduce several things... But the step to change yourself, and that is professional development, that is what people have to do themselves. (Sam)

Another principal explained:

What I notice in this school is that there is attention for teacher professional development, however teachers are not proactive in this...that is also related to ambition, that is what I see too little at this moment. (Gaby).

Several principals also indicated that they experienced difficulties in stimulating teachers' learning attitude. For example, one explained that he gave various things to the teachers, such as a sign-up list for peer consultations, but that they did not use it. One referred to difficulties in stimulating a learning attitude in senior teachers. However, most principals did not reflect on their function as role model in this respect and did not participate in professional development activities. They pointed to teachers' own responsibility for their learning.

Most principals (14) mentioned that it was important for TPD to take "differentiation" into account and pay attention to the motivation, needs and levels of individual teachers: "Differentiation in professional development is very important; just as we do this with children, it is also important to do this with teachers" (Pauline).

In order to have an overview of teachers' individual needs, motivation and levels, principals had conversations and made classroom visits and identified differences and similarities between teachers during team meetings. Furthermore, some examples of differentiation were given by the principals, such as an ICT course at three different levels, or a course with a general part and more specific parts for teachers from lower, middle, and higher grades. Nevertheless, the principals indicated that they experienced difficulties in applying differentiation and that they wanted to further develop this in their schools.

Half the principals emphasised the importance of “knowledge sharing” for TPD. Several indicated that they wanted to make greater use of internal expertise instead of hiring expertise from outside the school. Principal Ben stated that:

We try to make a change; part of the expertise is already within the people. It is not always necessary to invite external experts, there is also much to learn from each other.... but then you must be willing to learn together and from each other, and give teachers the opportunity to do so. Knowledge and expertise sharing is something that was for a very long time not common in education, but I think this is going to change.... but the attitude [of teachers] to share their knowledge, is not here yet.

The principals explained that internal expertise fitted better with the specific context of the school. Therefore it was necessary for teachers to share their expertise. According to them, there was a great deal of knowledge inside schools which was not always shared among teachers. They tried to encourage knowledge sharing by making teachers responsible for part of a seminar or by asking them to give a presentation after taking a TPD-related course.

6 | PRINCIPALS’ PRACTICES RELATED TO TPD

The principals created and maintained the conditions for successful TPD in their schools in several ways. To operationalise the structural conditions, various arrangements within the structure of the schools were made, such as assigning teachers as specialists (e.g., for mathematics or language) and organising study days/seminars and team meetings. In order to create and maintain the cultural conditions, principals organised activities in which teacher collaboration was central. The principals also referred to leadership practices in relation to some specific structural and cultural conditions.

6.1 | Creating *structural* conditions for TPD

The principals tried to create “enough time” for TPD by providing substitute teachers in the classroom (student-teachers or themselves). Additionally, they often organised professional development activities during lunch meetings or let half the team have professional development one year and the other half another year. In order to create “adequate resources” for TPD, they used online material and took advantage of the expertise within the school. One stated that he sometimes introduced certain books in his team and they discussed certain chapters together. The principals also used the Dutch national funding for teacher training programmes (the “Lerarenbeurs”) and disseminated information on this funding among their team. They were also satisfied with the Dutch collective agreement that included time for TPD. Sometimes they used additional subsidies from the government or the municipality.

The principals tried to realise a “cyclical work process” for TPD by planning several evaluation points. For instance, one school used the Plan-Check-Do-Act (PCDA-cycle) with “anchor points”: “We are working consciously with the PCDA-cycle with check points which we call ‘anchor points’, in which we reflect on where we are at that point and where we want to go” (Ian). Furthermore, the principals tried to communicate the procedures and opportunities for TPD by sharing documents with the school’s policy regarding TPD with their team.

The principals applied several leadership practices in order to create an “open work climate”. When there was a good work climate in the schools, they tried to maintain it by identifying the good atmosphere during team meetings. When the climate needed to be improved, principals used a variety of strategies, such as conducting satisfaction surveys, having conversations and team coaching:

And, once every two years we do a mandatory questionnaire for teachers which is also about atmosphere, school management and then issues very much comes into the picture, and you can get very much out of it and that is also discussed with each other. (Albert)

Some also mentioned that they also actively “practised” how to create a good working atmosphere:

At the [team] meetings, we do a lot of exercises: how do you give each other feedback. . . but also methods that we do with the students, cooperative teaching methods, we use them in the meetings, too. To practice, but also because of contributing to mutual trust. . . (Quincy).

Several others indicated that they organised special courses or seminars on “feedback”. Other strategies included expressing appreciation (by principals) when teachers asked questions, creating clear expectations about the learning climate during the application process (so that new teachers knew that they were expected to function in such an open climate) and organising training sessions about professional culture. Furthermore, making the desired organisational culture visible (for instance, by hanging postcards in the management office with statements such as “we talk with and not about each other”) and firing teachers who created an unsafe climate were mentioned during the interviews. Nevertheless, a good climate was not always achieved in the schools according to the principals.

The principals tried to achieve “respectful” and “equal relationships” between teachers by openly discussing differences in their team. Some indicated that this was difficult in the beginning: “It was never allowed to speak about differences. They found that quite scary when I did this the first time” (Haley). In order to motivate teachers to “take the initiative for professional development”, they mainly used strategies such as rewarding and facilitating coming up with new ideas. According to the principals, a good atmosphere in the school in which it is common to seek self-development can contribute to teachers’ own initiative for professional development: “If there is a culture in which people do that, they then are taking this up from each other” (Cheyenne).

“Collaboration” was stimulated in different ways. At more than half the schools, the teachers used peer consultations, classroom visits or “Lesson study”, a method of preparing lessons together. The principals indicated that teachers found these methods valuable because they were able to talk about education. Furthermore, the following strategies were also applied: organising substitute coverage (to enable teachers to observe each other), using slogans such as “we learn from and with each other” and implementing an open-door policy (so that teachers could observe each other).

7 | CONCLUSION AND DISCUSSION

Research has increasingly indicated that school principals exercised a significant role in teacher professional development (James & McCormick, 2009; van Veen et al., 2012). This study complemented previous research by investigating the role that school principals perceived they fulfilled in realising the workplace conditions for successful TPD. More specifically, it aimed to provide insight into which workplace conditions principals considered to be important for TPD and how they created and maintained these in their schools.

7.1 | Principals’ beliefs

In the current literature, collaborative knowledge development and knowledge exchange in professional networks have been identified as being important for effective TPD (Bridwell-Mitchell, 2016; Daly, Moolenaar, Bolivar, & Burke, 2010). Through these, teachers can learn from each other, transfer information and have access to knowledge and social support that enable them to deepen their understanding of educational practices (Coburn, Russell, Kaufman, & Stein, 2012; März, Gaikhorst, Mioch, Weijers, & Geijsel, 2018); Rincón-Gallardo & Fullan, 2016). The

interviews showed the principals' greater attention to expertise that was internal to the school and to knowledge exchange when talking about TPD. School principals acknowledged the relevance of formal external interventions, but they also strongly emphasised the need to further develop internal school learning activities. In line with current studies on school leadership, we identified a shift from a focus on building human capital towards investing in social capital (Balkundi & Kilduff, 2005; Daly, Moolenaar, Carrier, & Del Fresno, 2017). Instead of looking for expertise outside the school, the school principals emphasised the availability of human capital within their organisation and the importance of knowledge sharing within the school (i.e., investment in the school's social capital). This shift was also reflected in their focus on collective teacher learning. Besides individual professional development, they frequently referred to team meetings and schoolwide study days.

In this study, additional conditions were mentioned by the principals, namely: "teachers' learning attitude", "differentiation in teacher professional development" and "knowledge sharing". Remarkably, all focused on the teacher, whereas the existing literature emphasised the importance of a focus on the student (Borko, 2004; van Veen et al., 2012). The principals in this study argued that a focus on the student was important; however, in their belief, professional development was broader and topics such as "teacher identity" or "school organisation" were also valuable because a broader focus could benefit the teacher and therefore, indirectly, the students.

Despite the fact that the main focus in our study was on the "theory of improvement" in which the focus is on workplace conditions that enable the successful implementation and sustainability of TPD interventions, these results showed that principals also conceptualised successful TPD from the "theory of change" perspective in which the importance of a TPD intervention for teacher's learning, motivation and/or teaching was underlined (Desimone, 2009).

An important finding in this study was that principals experienced difficulties in stimulating teachers' learning attitude. Remarkably, most did not reflect on their function as a role model, although we know from previous research (Admiraal et al., 2016; Drago-Severson, 2012) that modeling learning while leading is important to create a culture that supports teachers' learning.

7.2 | Principals' practices

Research on school principals' practices is limited (Harris & DeFlaminis, 2016; Radinger, 2014). This study provided insight into principals' specific leadership practices in order to achieve the conditions for successful TPD. Several concrete examples were described that could serve other principals who wanted to create such conditions.

This study shows that not all the conditions that were perceived by principals to be important for TPD were realised by them. For instance, the principals emphasised the importance of differentiation and an open work climate; however, they also indicated that these conditions were difficult for them to achieve and not completely achieved in their schools. Drago-Severson (2012) also found that principals experienced difficulties in creating an open climate in their schools.

Finally, results show that the school principals increasingly acknowledge their role in enabling knowledge exchange within their school. Instead of only using external expertise for TPD, they would like to further develop their school as a learning community in which internal expertise was exchanged and collective learning was stimulated. However, whilst it is clear for the principals which working conditions are needed for internal learning, it is not obvious for them which strategies or leadership practices they can use in order to realise these in their schools. Although the benefits of social capital have been documented (Daly et al., 2017; Hargreaves & Fullan, 2012), principals need to develop the skills to further expand the workplace conditions for successful internal TPD.

8 | LIMITATIONS AND FUTURE RESEARCH

This study has some limitations and more research into TPD is needed. First, it was a small-scale research project and the results cannot be generalised. Although a certain uniformity of context was achieved with a sample of

primary school principals, some aspects of principals' beliefs and practices could be different in other types of school setting. For instance, in (Dutch) secondary education, principals share their responsibilities with middle leaders (e.g., subject leaders, middle managers, heads of departments, curriculum coordinators) and collaborate with teachers who teach different subjects and have different time schedules, which can have consequences for principals' beliefs and practices regarding successful teacher professional development. Therefore, it would be interesting to conduct this study in secondary schools and carry out a large-scale quantitative study to verify the outcomes. Nevertheless, the small-scale design in this study helped to obtain greater insight into the perceived value of certain workplace conditions for TPD in primary schools and the leadership practices in order to realise them. Another limitation is that we only asked principals and not teachers to reflect on the conditions and leadership practices. For further research, it would be interesting to collect data from multiple data sources (including teachers). Furthermore, a limitation is that we only focused on the "espoused theory of practice" (Spillane, Halverson, & Diamond, 2001). For further research, it would be interesting to also focus on the "theory in use" (what actually happens in the school), for instance, by making observations. In this study, we found that most principals did not reveal their learning attitude to their teachers. For future research, it would be interesting to investigate whether there was a pattern between certain characteristics of principals (such as years of experience and educational background) and their learning attitude.

Additionally, further research should focus on the specific leadership practices needed to support internal knowledge exchange and internal forms of TPD. The current state of affairs in many school systems in Europe is that teachers still have few opportunities to share their professional experiences with colleagues and limited access to other teachers' good practices (Gatt, Cunha, & Costa, 2014). This study found that principals experienced difficulties in realising the conditions for successful TPD, especially internal forms of teacher learning. Investments from policy makers and researchers in school principals' professional development in this respect could be a step forward.

Despite the limitations, this study contributed to our knowledge regarding the school principals' efforts related to TPD within their schools. It provided greater insight into the perceived importance of certain workplace conditions for TPD and how these could be created and maintained by principals. These insights can be used to better embed professional trajectories within the school organisation and optimise TPD, which can ultimately influence student outcomes (Borko, 2004).

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