

Context matters: A meta-ethnographic study on teachers' workplace learning

Simon Enthoven*, Institute for the Analysis of Change in Contemporary and Historical Societies (IACCHOS), Place Cardinal Mercier, 10, Louvain-la-Neuve, 1348, UCLouvain, Belgium (simon.enthoven@uclouvain.be)

Virginie März, virginie.marz@uclouvain.be

Vincent Dupriez, vincent.dupriez@uclouvain.be

*Corresponding author

Highlights

- Research on teachers' workplace learning is often fragmented in focus.
- An integrative understanding of the role of the workplace in teacher learning is needed.
- A teacher's workplace gives access to different learning opportunities.
- A teacher's workplace is multiple in place and time.
- The material and temporal dimensions of a teacher's workplace shape teacher learning.

Abstract

Extant literature on teachers' workplace learning has provided insights into how teachers learn through everyday work activities. In this meta-ethnographic literature review, we focus on developing an integrative understanding of how teachers experience the role of the workplace in teacher learning. Results of an analysis of 51 research articles published between 2000 and 2020 indicate that a teacher's workplace provides a variety of learning opportunities. Moreover, the synthesis reveals that a teacher's workplace should be considered as multiple (school, personal and virtual workplaces) and is characterized by material, temporal, and relational dimensions that shape teacher learning.

Keywords

Teachers' workplace learning, meta-ethnography, learning opportunities, workplace dimensions

Running head: META-ETHNOGRAPHIC STUDY ON TEACHERS' WORKPLACE LEARNING

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1. INTRODUCTION

In the last 30 years, the topic of teacher professional learning and development has received growing attention among educational researchers and policymakers (Gurl et al., 2016; Hoyle, 1982; Ingersoll et al., 1997; Wilson, 2018). Moreover, teacher professional learning and development has been the subject of numerous policy reforms, which have led in many Western countries to both lengthening of initial training and increased attention paid to in-service training (Darling-Hammond & Richardson, 2009). In the past, teacher professional development typically entailed implementation of formal off-site professional development strategies (i.e., courses, training, workshops) coupled with analysis of their impact on teachers' knowledge and classroom practices as well as on student outcomes. More recently, researchers began to explore the school context as a learning environment for teachers, focusing on how professional learning also occurs informally throughout teachers' everyday work activities (Jurasaitė-O'Keefe, 2021; Lampert, 2010). As a result, over the past several decades, teachers' informal learning has gotten the lion's share of attention in the literature (Kyndt et al., 2016; Putnam & Borko, 2012). This literature has brought to light, among other things, that informal learning contributes to teachers' professional development (Hoekstra & Korthagen, 2011), that teachers prefer informal learning activities compared to more formal ones (Meirink et al., 2009; Smaller, 2005), and that teachers consider informal learning activities to be more relevant for their practice (Lecat et al., 2019).

Although the rather young field of workplace learning grew out of reflections on informal learning occurring in the workplace, the older field of teacher professional development, which formerly was dedicated to the study of formal off-site learning, now tends to share this interest in on-site or on-the-job learning (Imants & van Veen, 2010; Svendsen, 2020). Current research has recognized the complementarity of formal and informal learning strategies, acknowledging that formal professional development programs may be effective, especially when the content learned in formal (and often off-site) programs relates to and is embedded in professional development

processes present in the workplace, for instance, through professional learning communities (Darling-Hammond et al., 2017; Meeuwen et al., 2020). Moreover, what is informally learned through everyday work processes and activities can be turned into explicit knowledge and skills by means of formal professional development activities (Kyndt et al., 2016). As a result of this rapprochement, the distinction between formal and informal learning is increasingly considered to be an unhelpful dichotomy, which has been replaced by a continuum along which each learning activity is located as more or less formal or informal (Cairns & Malloch, 2011; Eraut, 2004; Haemer et al., 2017). Given this nuanced approach, authors have pleaded for further dialogue between the fields of teacher professional development and workplace learning (H. Hodkinson & Hodkinson, 2005; Richardson & Placier, 2001). Some have argued for using the more generic term “teacher professional learning” (Opfer & Pedder, 2011; Webster-Wright, 2009), which would “bring together multiple, fragmented strands of literature from teacher professional development, teaching and learning, organizational learning, and teacher change that have tended to remain separate” (Opfer & Pedder, 2011, p. 377).

During the last decade, researchers' attention has thus been largely captured by teachers' professional learning happening within the workplace and through work activities, what we will call *teachers' workplace learning* (TWPL) in this article. Despite the significant increase in the number of studies on teachers' workplace learning, the literature has mainly addressed this phenomenon in terms of its object, that is, learning; however, teacher workplace learning, by definition, depends on its context (the workplace). Existing studies have shown how the process of workplace learning is in large part determined by the context in which it takes place; nevertheless, this context has never been questioned in an integrative manner. Most studies have focused on specific and isolated workplace variables, providing us with an atomistic image of the role of the workplace in teacher learning. More precisely, teachers' workplace learning has been studied in terms of facilitating or hindering conditions that are often categorized as structural or

cultural (Louws et al., 2017). Examples of structural conditions are time and materials (Buttram & Farley-Ripple, 2016; Carpenter, 2018), spatial infrastructure (Spillane et al., 2017), formal support (Maxwell, 2014) or workload and clear professional development policies (Louws et al., 2017). Cultural conditions refer to the presence of a shared school culture, a supportive climate for professional learning, the active involvement of teachers in decision-making processes (Admiraal et al., 2016; Little, 1982; Rosenholtz et al., 1986), or supportive collegial relationships (Little, 2012; Smylie, 1995). By focusing on these conditions, researchers have characterized work environments in terms of being individualistic vs. collaborative (Hargreaves, 1994) or restrictive vs. expansive (Fuller & Unwin, 2006; H. Hodkinson & Hodkinson, 2005). This representation of a teacher's workplace presents the workplace as something passive that can be controlled in order to improve teacher professional learning, instead of analyzing how it is intrinsically related to workplace learning. In addition to this specific focus on workplace conditions, researchers have often taken a fragmented view of teachers' workplaces. Rather than considering workplace learning as a result of multiple interacting contexts, their focus has been narrowed down to individual elements. For instance, on learning through particular programs (e.g., mentoring programs for early career teachers) or activities (e.g., participation within professional learning communities, workshops), or within one particular setting or context (e.g., learning in the context of educational reforms, learning occurring during peer teaching, online learning; Admiraal et al., 2016; Leeferink et al., 2015).

More research is required to fully understand what role the workplace fulfills in the process of teacher professional learning. The aim of this study is to develop a more holistic understanding of how a teacher's workplace matters for teacher learning, by presenting an integrative overview of the role of the workplace within existing studies on teacher professional learning (Fraser, 2010; Kwakman, 2003). The following question guided this review: How does a teacher's workplace contribute to the teacher's professional learning? We chose to conduct a meta-ethnographic study

Code de champ modifié

(Noblit, 2019; Noblit & Hare, 1988) that allowed us to find, critically assess, and synthesize qualitative evidence on teachers' perceptions and experiences regarding workplace learning. More specifically, findings will be presented within an integrative model of teachers' workplace learning that reveals the diversity of learning opportunities offered by the workplace, the interacting dimensions that constitute the workplace and the multiplicity of a teacher's workplace. The results of this study provide a crucial contribution extending the body of knowledge about workplace learning by developing an expansive understanding of teacher workplace learning and by refining theory about how the workplace matters for teacher learning.

2. THEORETICAL BACKGROUND

2.1. Defining teachers' workplace learning

Teacher professional learning is an overarching concept characterized by a variety of dichotomies, such as individual vs. collective, onsite vs. off-site, or formal vs. informal learning (the last of which has dominated the field; Coffield, 2000; Friedman & Phillips, 2004). This explains why there is no uncontested consent to a general definition (Ambler, 2016). In this regard, TWPL is often associated with a specific part of the spectrum of teacher learning, namely, the learning happening informally on-site (in the school).

In this study, we used Billett's (2001, 2002, 2004) approach to workplace learning as co-participation, to avoid a fragmented approach to TWPL. This approach considers that workplace learning occurs when individuals (in our case, teachers) *engage* with learning *affordances* or opportunities offered by/embedded in work practices. Workers, depending on their individual characteristics, will accept engagement with affordances embedded in their work activities or not. More specifically, we define TWPL as *the results of the interaction between in-service teachers and work practices that update, develop and broaden their skills, knowledge, expertise, professional identity and other characteristics relevant to the practice of their teaching profession.*

2.2. Previous literature reviews on TWPL

Teachers' workplace learning has been the subject of earlier literature reviews. In this section, a brief overview will be presented of the five most relevant reviews written after 2010 on teacher workplace learning (i.e., Kyndt et al., 2016; Lecat et al., 2020; Postholm, 2018; Vangrieken et al., 2015, 2017). The five reviews studied different aspects of teacher workplace learning corresponding to three research issues.

The reviews by Kyndt et al. (2016) and Lecat et al. (2020) were devoted to teachers' informal learning (in schools). Kyndt et al. (2016) systematically identified the learning activities undertaken by teachers in their daily practice, along with their antecedents and outcomes. They distinguished individual learning activities (e.g., experimenting, information gathering, reflecting) and collective learning activities (e.g., collaborating, sharing, participating in extra-curricular activities). They also found that compared to experienced teachers, beginning teachers' learning is more hindered by unsupportive school and classroom conditions, such as isolation, lack of support and ineffective leadership. The literature review by Lecat et al. (2020) aimed to present an overview of the various definitions, features, and measurements of teachers' informal learning. They developed the following comprehensive definition of teacher learning:

The learning of teachers by intentionally or unintentionally engaging in individual or collective, interactive or non-interactive, and instructive or self-directed activities that enhances the professional development of knowledge and skills. This learning can be deliberate or implicit. (Lecat et al., 2020, p. 9)

However, the context in which teacher learning takes place was not a specific focus of attention in their review.

The reviews by Vangrieken et al. (2015, 2017) focused on teachers' collective learning in school: learning happening when teachers are interacting or working together in schools. More

specifically, those reviews presented systematic overviews of the literature on teacher collaboration in schools (Vangrieken et al., 2015) and professional learning communities (Vangrieken et al., 2017). Both studies identified the processes through which collective work contributes to student outcomes, teacher professional development and school development. Moreover, the authors identified several facilitating and hindering contextual factors, such as isolation, school culture, and ineffective leadership.

Finally, Postholm's (2018) review focused on schools as the environment for teacher development. The results provided an overview of the characteristics of teachers' professional development in schools and how it influences school improvement, with an emphasis on formal professional learning activities, such as teachers' participation in lesson study or professional development interventions. Postholm also analyzed the contextual factors influencing teachers' professional development, such as leadership practices, social norms and values and learning structures.

These reviews all acknowledged that context matters for teacher learning; however, the workplace was never the lead player in the review. A teacher's workplace was studied in terms of workplace characteristics, enabling or hindering conditions of the work environment or predictor variables, rather than being a theoretical research object itself. The novel contribution of the present meta-ethnographic review lies in its aim to enhance previous literature reviews that primarily focused on the learning process. By providing a comprehensive understanding of the workplace and its role in teacher learning, we shed light on *workplace* learning instead of merely examining workplace *learning*.

As the central aim was to derive a new, more integrative conceptual understanding of teachers' experiences concerning the role of the workplace in teacher learning, we conducted a systematic review of the qualitative research literature. While there is a prevailing positivist approach to quantitative knowledge synthesis (Hannes & Lockwood, 2011), a qualitative research

synthesis allows for going beyond a mere combining or compiling of findings generated in earlier studies (Creswell & Poth, 2016). More specifically, we followed the meta-ethnography approach outlined by Noblit and Hare (1988). Compared to the purpose of other qualitative synthesis methods used in education (see Maeda et al., 2022), such as meta-aggregation (generating recommendations to guide action), thematic analysis (providing a collective summary of themes) or formal grounded theory (theory building), meta-ethnography allows generation of a new and integrative interpretation of the qualitative studies included in the review (Hannes & Lockwood, 2011). While it was originally developed specifically to synthesize ethnographic data, hence its name, the approach is applicable and relevant for other types of qualitative studies, as recent and abundant meta-ethnographic studies have shown (Dixon-Woods et al., 2007; France et al., 2019).

3. METHODOLOGY

This meta-ethnographic study was carried out by a team of researchers, with the valuable support of expert librarians, as advocated by Paterson (2011). Throughout the search, selection, appraisal, analysis and synthesis phases, the first author collaborated intensively with the second author. In case of disagreement or questions, discussions were held with the third author. To enhance the transparency of the interpretive work and ensure the reliability of the findings, preliminary interpretations were consistently shared during meetings among all three authors. Any discrepancies were resolved through constructive discussions and reflection.

3.1. Search strategy

We conducted a comprehensive search of the literature, combining a database search with an extensive manual search. Five databases, ERIC (ProQuest), Scopus, PsycInfo, Sociological Abstracts and Francis, were systematically searched in December 2020. The research protocol and search string were created in collaboration with expert librarians¹ (Appendix A). The search string

¹ We would like to thank [NAMES (deleted for blind review)] for their contribution.

included combinations of the following keywords, which were adapted according to the requirements of individual databases: Education* AND Teacher* AND Teacher learning AND Teacher training AND Workplace*. The database search resulted in the identification of 7001 articles. Twenty-one additional articles were identified through a hand-search strategy, which relied on two snowballing techniques (reference lists and citation tracking), building upon the final selection extracted from the database search. The high number of hand-search selected articles is due to the wide scope of our research object, which is difficult to circumscribe by a list of keywords.

3.2. Selection criteria and quality appraisal

Removal of duplicates and title- and abstract-based screening and selection took place first, followed by full-text based selection. Multiple selection criteria were used. The first criterion was the topic of interest: studies with a primary focus on teacher learning occurring in and related to their workplace. The two central concepts of the research (teacher learning and teacher workplace) were broadly defined, in order to be as exhaustive as possible. The second criterion addressed the targeted actors: in-service teachers. Studies concerning student teachers and pre-service learning were excluded. Studies on higher education, teacher education and special education also were excluded, to keep the focus on pre-school, elementary school and secondary school organizations. From a geographic point of view, developing countries were excluded in order to sample comparable school realities. In line with our research objective, a methodological criterion specified that included studies must rely on qualitative empirical research and analysis methods. However, six articles with mixed data collection methods were selected, because they included case studies in which qualitative data had priority. For those articles, only the qualitative data were analyzed. Two additional criteria concerned publication: included studies had to be published in international peer-reviewed journals, and articles published before 2000 were excluded, given that,

as noted in the introduction, teachers' workplace learning only became popular among researchers at the end of the 20th century. The final criterion concerned the language: studies had to be written in English, French or Dutch, in order to be read and understood by the researchers.

All articles meeting the selection criteria went through a critical appraisal procedure², using the QARI instrument (Table 1; Lockwood et al., 2015) developed for the Joanna Briggs Institute. This instrument was chosen for its emphasis on congruity (between methodology, research questions, data collection and analysis), its clarity and its ease of use (Majid & Vanstone, 2018).

[TABLE 1]

Upon using the QARI instrument to appraise a number of our selected studies, we noticed that criterion 1 was rarely met, the philosophical perspective rarely being explicitly announced (even if implicitly perceptible). Criterion 6 seemed of secondary importance because our research question did not address any cultural issues vis-à-vis the researchers, and the congruence of their theoretical positions could be deduced through other criteria (1 to 5). In addition, the assessment of criterion 9 was often based on little information. We can explain this by the fact that this topic involves little exposure to ethical issues, except for the consent of the participants and the anonymization of their personal data, which seemed generally respected. It was therefore decided that the studies should meet a minimum of 6 out of the 7 remaining criteria to be included. After the quality appraisal, a final total of 51 articles were included in the review, 30 as a result of the database search, and 21 from the follow-up hand search (see Figure 1, Moher et al., 2009).

[FIGURE 1]

3.3. Data extraction and analysis

After final selection of the studies to be reviewed, the next step was reading and in-depth analysis of the 51 included articles.

² Only the qualitative part of mixed-methods research was rated.

The first phase involved data extraction, in which all relevant information related to the study characteristics (participant characteristics and number of participants, number of schools, data collection methods) and contextual information (country, school level) was extracted from the 51 articles (see Appendix B).

The second phase was coding, in which the key findings in each study with regard to how teachers learn in the workplace and how the workplace contributes to this learning were extracted and coded. The extracted data included participant quotes, authors' field notes and observations, and excerpts from documents, as well as authors' interpretations. Following Atkins and her colleagues (2008), we did not differentiate between first-order constructs (e.g., participant quotes) and second-order constructs (e.g., themes developed by the authors of the selected studies) but considered all data as second-order constructs; our own findings can then be considered as third-order constructs. We used Strauss and Corbin's (1990) open, axial and selective coding procedures to inductively analyze the data from the 51 articles using Atlas.ti. The first open coding, advancing study by study and line by line in an iterative way, led to the identification of more than 60 empirical instances (codes; second-order constructs) related to a teacher's workplace or context (e.g., roles and positions, architecture, objects, culture and norms, time, etc.) and teachers' learning (e.g., activities, processes, actors, etc.) mentioned essentially in the results and discussion sections of the selected studies. Next, iterative axial and selective coding was conducted that grouped the codes into analytical topics and themes (see Figure 2). More specifically, the studies' findings were translated from one study to another to generate a new level of interpretation: we transcended the findings of individual studies and created higher order themes, what we are calling third-order constructs. Three higher-order themes were identified, each consisting of three sub-topics.

The synthesis undertaken in the third phase resulted in the development of an overarching understanding of the role of the workplace in teacher learning, that is, a line-of-argument synthesis.

[FIGURE 2]

4. RESULTS

The 51 studies originated in 13 different countries (see Appendix B). Most of them were conducted on the European continent (28) or in the United States (18). One study focused on the kindergarten level, 15 on elementary/primary schools, 20 on secondary schools, and 14 studies concerned multiple school levels (in one study the school level was not mentioned). In the majority of the studies, the main participants were teachers (beginning or experienced teachers, teacher-researchers, or head teachers); in 16 articles, other actors (principals, administrators, students, scholars) also acted as participants. The number of participants included in the qualitative studies ranged from 2 to 76 and the number of schools ranged from 1 to 20. The predominant data collection method were interviews (mainly individual interviews but also focus groups; $n = 49$), often coupled with observations and document analysis ($n = 30$). Six of the articles used a mixed-methods design, usually a case-study approach in which quantitative data served to identify participants for the qualitative study or to describe the case-study context. Based on our meta-ethnographic analysis, we were able to generate three main themes across the 51 studies, contributing to an expansive perspective on how teachers experience the role of the workplace in their professional learning: teachers' workplaces offer different types of learning opportunities (section 4.1), which are shaped by a variety of workplace dimensions (section 4.2), and occur in multiple workplaces within and outside the school building (section 4.3).

4.1. Workplace learning opportunities

Our analysis shows that the workplace is a source of different learning opportunities occurring during teachers' daily performance of their job, individually or while interacting with others, within their classroom, school or broader network, which lead to generating diverse types of knowledge. More specifically, teachers encounter three types of learning opportunity within their

workplace: they learn from their day-to-day teaching experience, from and/or with others, and from non-interpersonal sources. However, those three types of learning opportunity were not addressed to the same extent within our selection of articles (see Appendix C). Our analysis showed that workplace learning has been mainly studied in terms of teachers' social interactions ($n = 51$), presenting the workplace as a social place, and to a lesser extent as being the result of teachers' teaching practices ($n = 14$) or non-interpersonal sources ($n = 10$). Despite our broad definition of workplace learning (going beyond dichotomies), we found that the majority of the 51 studies considered the learning identified in the workplace as informal learning.

Teachers learn in the workplace through and about their individual actions (see Appendix C). Given that teachers' core professional activity is teaching, we called this opportunity **learning from the teaching experience**. Learning from the teaching experience can occur through reflection on daily actions during classroom activities (e.g., adopting new teaching practices by trial and error, analyzing pupils' reactions), as well as through many other activities related to teaching practice (such as analyzing pupils' products, adapting lesson plans, etc.). For instance, this type of learning opportunity was visible in the study by Flores (2005), who investigated teachers' views on their professional learning and the factors influencing it:

[...] teachers' processes and preferences of learning were mainly idiosyncratic and classroom-centred. They emphasised the importance of learning continuously, by reflecting on their own practices (a posteriori), by analysing students' reactions inside the classroom, by trying out new strategies that they have devised and by reflecting in practice [...]. (p. 502)

In this case, the source of learning is the teacher themselves; the process can be characterized as individual, since most of the time it is self-initiated and self-regulated (see, e.g., Ambler, 2016; Carlyon, 2015; Engvik, 2014; Flores, 2005; Horn, 2005; Lohman, 2003; Rytivaara & Kershner, 2012). In terms of types of professional knowledge, the studies showed how teachers essentially

acquired *pedagogical knowledge* and *personal knowledge*³ through these learning opportunities (i.e., in their daily actions as teachers and through reflection on their actions taking place within their workplace).

A second learning opportunity offered by a teacher's workplace occurs through social interactions, which we call **learning from and/or with others**. These social interactions concern not only colleagues (e.g., Ambler, 2016), but also school leaders (Clement & Vandenberghe, 2001; Grosemans et al., 2015; Wong, 2010), external experts (Gao & Wang, 2014; Grosemans et al., 2015; Wong, 2010), student teachers (Admiraal et al., 2016; H. Hodkinson & Hodkinson, 2004; P. Hodkinson & Hodkinson, 2004), and even close relatives such as partners, children, parents, and so forth (Engvik, 2014; Fox et al., 2010). The diversity of actors with whom teachers interact appeared, for instance, in the study by Ambler (2016), who explored the opportunities for professional learning bound up in teachers' daily work in classrooms:

By pulling ideas together from the varied aspects of her work, Erin almost creates a list of things that were important for her learning. She starts by observing that having a teacher mentor was helpful, then she leaps from that thought to highlight how letting people know "how fantastic the job is" impacted on her learning. She also comments that she learnt "a lot" from having time outside her own classroom to work alongside other teachers on tasks like planning programs. (p. 6)

Studies consistently reported that these interactions occurred through multiple activities, ranging from spontaneous to more organized social gatherings (talking, sharing resources, collaborating, observing, taking teacher-leadership roles, and so forth). In particular, enactment of a teacher-

³ Following a model of teachers' professional knowledge inspired by Banks et al. (1999, p. 96) and Gess-Newsome (2002, p. 12), composed of interrelated and overlapping types of knowledge: subject-matter knowledge (concepts, methods of inquiry, vocabularies), general pedagogical knowledge (knowledge of learners and their characteristics, learning activities and assessment, classroom management, etc.), knowledge of educational context (workings of the classroom, organizational norms, local cultural discourses and habits, etc.) and personal knowledge (teachers' professional identity, self-efficacy, beliefs about teaching).

leadership role could broaden and intensify teachers' social network, giving them access to new interactions and learning opportunities, as shown in the study by Lohman (2003), who investigated the type of work situations triggering public school teachers' engagement in informal learning:

In addition to teaching tasks, new leadership roles triggered engagement in informal learning among participating teachers. Leadership roles undertaken by the teachers included mentoring teachers, serving as chairs of departments, leading teacher study groups, and serving on school and district-wide committees. (p. 48)

This type of learning opportunity is in essence social, and can be self-initiated or not and self-regulated or not (e.g., Admiraal et al., 2016; Collinson, 2004; Gao & Wang, 2014). Through these social interactions, teachers can acquire all types of professional knowledge: from general pedagogical knowledge to subject-matter knowledge, knowledge of the context of teaching and personal knowledge, as one participant pointed out in the study by Datnow et al. (2013), who investigated teacher collaboration:

That's what we so want to get into is sharing lessons, sharing great ideas that the kids got, that the kids understood. "Hey I did this really cool lesson on character; try it! Hey I did this really great lesson on ambiguity; try it. Oh cool, you know my kids have already struggled with that. I'd love to try it." Who wouldn't want new strategies, new ideas? (p. 351)

Finally, a third learning opportunity present in the workplace consists in **learning from non-interpersonal sources**, in which the source of the learning is the wider professional field, without the teacher's direct interaction with others. In addition, this type of opportunity is usually mediated through written and/or visual (paper or digital) supports such as books and magazines, teaching curricula and datasets (Datnow et al., 2013; Popp & Goldman, 2016) or websites, social networks and forums (Engvik, 2014; Lohman & Woolf, 2001). These sources were seen to allow teachers to get new ideas for the preparation of courses: "Ideas for lessons came from the world around

them, from art exhibitions, from books (the office was full of illustrated books), and [...] from the Internet" (H. Hodkinson & Hodkinson, 2004, p. 25). This third type of opportunity is essentially individual (self-initiated and self-regulated), while the spectrum of what teachers can learn in this way is very broad (pedagogical knowledge, subject-matter knowledge, and personal knowledge), excluding only contextual knowledge.

Moreover, these three types of learning opportunity, although they rely on very different learning processes and may be independent, generally appear in practice and empirically to be interrelated, successive and/or simultaneous. In particular, learning through the teaching experience and learning from and/or with others are often closely entwined:

The teachers in this research developed understandings of their own learning in the act of conversation, through: juggling with words to make sense of their experiences; capturing and describing the details of the teaching situation so they could solve some of the problems that inevitably emerge in their practice; and explaining their actions to determine whether they were useful or made sense in the context of their teaching. (Ambler, 2016, p. 286)

Moreover, several studies emphasized that these learning opportunities can also be sequential; for example, discovering a new instructional method on the internet (learning from non-interpersonal sources), testing it in class (learning from the teaching experience) and discussing it with a colleague (learning from and/or with others). In this regard, Collinson (2004) mentioned that "Many teachers [...] indicated that they need time to learn on their own before sharing with colleagues" (p. 321). Finally, the processes could be simultaneous, as with co-teaching (Rytivaara & Kershner, 2012), where learning through the teaching experience and from and/or with others occur together.

4.2. Dimensions of a teacher's workplace related to teacher learning

The second main theme that was present across the studies was the identification of a teacher's workplace as constituted by materiality, time and actors. More specifically, we identified three workplace dimensions that co-constitute teachers' learning opportunities: the material dimension (space and objects), the temporal dimension (time), and the relational dimension (actors).

4.2.1. Material dimension

Teachers' workplace learning is the result of an interaction between teachers and the workplace's material dimension, in terms of space (architecture, broader school environment) and objects present in this space (instructional tools, other work-related objects and non-work-related objects). Teachers work in specific spaces and with particular objects that actively shape and enact teachers' learning opportunities ($n = 18$ articles). Those articles show that the workplace (in terms of space and objects) is not a passive variable to be controlled, but is an active or mediating force in the process of teacher learning, by configuring what is perceived as teacher learning and by giving access to certain learning opportunities.

In the selected studies, we found that the **spatial aspect** was often embodied in the school building and its architecture: "However, the architecture of the two-year old winged two-storey building did not seem to encourage interactions between the teachers" (Jurasaitė-Harbison, 2009, p. 302), in its immediate outside infrastructure: "When we take kids outside, we can exchange a couple of words [...]" (Jurasaitė-Harbison, 2009, p. 307), or in its situation within the broader environment (rural-urban context, proximity to a university campus, etc.). Inside the school building, specific spaces such as classrooms, staff rooms and departmental offices attracted researchers' attention when they were studying teacher professional learning (P. Hodkinson & Hodkinson, 2003; Jurasaitė-Harbison & Rex, 2010; Lisahunter et al., 2011). Other spaces such as hallways, corridors and staircases (Jurasaitė-Harbison, 2009; Jurasaitė-Harbison & Rex, 2010) and smoking rooms and libraries (Lohman, 2000) were also mentioned. The spatial aspect of the

workplace appears specifically important with regard to a teacher's opportunity to learn from and/or with others (Lipscombe et al., 2020), because space (and the way it is constituted) stimulates (or not) interaction between teachers. A participant in the study by Fox et al. (2010), who investigated novice teachers' perceptions of workplaces in terms of support for their learning, had this to say:

The most important source of support is not a person but a place. During break time you go to the technicians' room, you have a cup of coffee and it's the informal conversations that you have that are really worth their weight in gold. (p. 222)

The material dimension of a teacher's workplace is moreover embedded in **objects**. These objects can be of different types: instructional artifacts such as programs (Halverson, 2003), books (Gaikhorst et al., 2019) or student achievement data (Datnow et al., 2013; Popp & Goldman, 2016), other work-related objects such as documents, computers, technology and desks (Lisahunter et al., 2011; Lohman, 2000) and non-work-related objects, for instance, coffee machines or armchairs (H. Hodkinson & Hodkinson, 2004; P. Hodkinson & Hodkinson, 2003). We found that the presence of objects might prompt learning opportunities, among other things enabling interactions between colleagues (e.g., H. Hodkinson & Hodkinson, 2004; P. Hodkinson & Hodkinson, 2003; Lisahunter et al., 2011). Other spaces within schools (besides a teacher's classroom) can be potential learning spaces and a teacher's encounter with a variety of objects can create learning opportunities:

There is a departmental tradition of spending breaks and lunchtimes in the art area office, [...]. The office contains coffee-making facilities and a microwave for cooking baked potatoes for lunch. The room is shared with some "resistant materials technology" staff, but is dominated by the artists and lined with shelves of art books. Thus, the art staff spend a lot of non-teaching time chatting together, often about work and work-related matters. (P. Hodkinson & Hodkinson, 2003, p. 10)

A workplace's material dimension co-constitutes teachers' learning opportunities in three ways: through establishing a sense of proximity, of visibility and of property. The way a workplace is materially configured can create physical **proximity** or distance between colleagues or make certain instructional material more or less accessible. While proximity between colleagues seemed to offer potential learning opportunities, distance was perceived as an obstacle:

When Sonny wasn't on playground duty or running lunchtime sport, a rare event, he enjoyed visiting the common 'staffroom' for lunch. It was in these infrequent visits to this space that he befriended the other school specialist teachers [...]. While Sonny felt quite independent in his development as a PE teacher, the little time spent with other specialist teachers provided reassurance and aided his understanding of what it meant to be a specialist teacher in this very particular context. (Lisahunter et al., 2011, p. 38)

The material dimension of the workplace can also shape teachers' access to learning opportunities through establishing **visibility**. The visibility of other teachers' actions or other teachers' products constitutes a learning opportunity, as when teachers see their colleagues teach or work (direct interactions) or see the products of other teachers' pupils' (indirect interaction):

Dissimilarly, the Lithuanian school, even though it spanned multiple floors, did not seem to have strict borders between classrooms and other school areas – all spaces seemed to reflect students' and teachers' creativity and initiative. The teachers seemed to feel free and welcome to visit other classrooms, stop by and talk in the hallways [...]. (Jurasaitė-Harbison & Rex, 2010, p. 272)

Finally, the workplace configures teacher learning through the sense of **property**. The fact that, in a school, some spaces or objects are used exclusively by one teacher (personal materials) or used by more than one teacher simultaneously or in succession (collective materials) also shapes teacher learning. Having classrooms dedicated to specific disciplines or grades is another example of this

type of characterization. Both personal and collective spaces or objects have a possible role in teachers' work and teacher learning:

[...] the value expressed by the teachers of respecting classrooms as unique, personal spaces that did not encourage colleagues to visit each other informally. (Jurasaitė-Harbison & Rex, 2010, p. 272)

The reworking of, addition to, and sharing of resources is explicitly encouraged, a value clearly immersed within the staffroom context across all subject areas. To Angel, the physical layout of the space embodies and encapsulates this strong sense of openness, cooperation and collaboration between teachers, regardless of teaching areas, giving access to an invaluable resource, other teachers. (Lisahunter et al., 2011, pp. 39-40)

More specifically, as this characterization includes valuing of privacy and closeness (personal places) or of collectivity and openness (collective places), different learning opportunities are encouraged or discouraged in these spaces.

4.2.2. Temporal dimension

A teacher's workplace is characterized not only by its material dimension shaping teacher learning, but also by a temporal dimension ($n = 23$ articles). The use of specific spaces and objects occurs at specific moments within teachers' schedule. We identified two characterizations of teachers' time that were related to teacher learning.

First, we distinguished between **teaching** and **non-teaching time**. Teaching time concerns the formal moments allocated for teachers to teach pupils, usually in the classroom, and non-teaching time refers to those moments teachers spend without contact with their pupils. In terms of teacher learning, non-teaching time appears to be a relevant moment to foster social interactions: "The principal organized the schedule so that the teachers of the same grade level had common preparation time to encourage getting together for informal learning as well as other designated

purposes” (Jurasaitė-Harbison & Rex, 2010, p. 273). Although the division between teaching and non-teaching time seems evident, overlap between the two was also noted:

[Teachers] spent much of their non-teaching time together, in the classrooms or in the office used for lunch and breaks as well as administration. By arrangement some pupils stayed in to get on with art work during lunch times, but had to be supervised by a teacher. (H. Hodkinson & Hodkinson, 2004, p. 25)

Second, teachers' time is made up of **individual** and **collective time**. Individual time is when teachers work alone and collective time is when teachers are working in interaction with at least one other person. Individual and collective time may be related, as described by Collinson (2004):

Many teachers in this study indicated that they need time to learn on their own before sharing with colleagues. [...] Henry's comment was the representative of the sample, “[If] I had time to learn more, I would be inclined to share more.” (p. 322)

The characterization of teachers' time as teaching or non-teaching and individual or collective enables better understanding of how teachers' time is related to their learning. The studies identified the importance of structuring collective time for teachers to be able to work together. Several researchers (Datnow et al., 2013; Lipscombe et al., 2020; Rytivaara & Kershner, 2012; Schei & Nerbø, 2015; Scribner et al., 2002) gave attention primarily to non-teaching collective working time, while providing such time was identified in the study by Admiraal et al. (2016) as key for teachers' workplace learning “[...] practicalities such as scheduled time and rooms for teachers to collaborate and share practices and insights are mentioned by all stakeholders as THE condition for teacher professional learning” (p. 294). At the same time, researchers reported a lack of this type of experience: “The lack of time for teacher interactions and dialogue seems to reinforce low expectations for teachers to learn from and share with colleagues” (Collinson, 2004, p. 327), with regard to both duration and frequency (Carpenter, 2018).

The studies also showed how teachers' time is frequently related to the school's culture and/or due to the school principal, who would "structure" teachers' time (Carpenter, 2015). Nevertheless, some researchers (Collinson, 2004; Engvik, 2014) noticed that these structured moments concerned only the visible or official part of teachers' time. Indeed, the temporal dimension brings to the forefront the idea of learning occurring outside the organized temporal structure for learning: "Most of teachers' learning and sharing appeared to occur at home or at school after classes, on weekends or during vacation time" (Collinson, 2004, p. 327). In this regard, the data insisted on the blurred boundaries, for some teachers, between their personal and professional lives: "I come in on the weekends, three or four hours at least on Sunday. And, I am not the only who does that" (Lohman, 2000, p. 90).

4.2.3. *Relational dimension*

Finally, in all the selected studies, a teacher's workplace was presented as a social place ($n = 51$). The studies highlighted how a teacher's workplace is constituted by the presence of actors who are related to each other through social interactions, and as such create opportunities for teacher learning (see 3.1). In the selected studies, the principal interactions studied were between **colleagues or with leaders**, whereas, as noted earlier, teachers also interact with **pupils, experts and relatives**. The analysis of the relational dimension brought out two elements: first, this dimension includes direct and indirect interactions, and second, these interactions are prompted by the workplace or by the teachers themselves.

By sharing the same workplace, actors are offered both direct and indirect interactions. **Direct interactions**, for instance, between colleagues (Attard Tonna & Shanks, 2017; Collinson, 2004; Engvik, 2014; Flores, 2004; Ghani et al., 2020; Horn & Little, 2010; Jurasaitė-Harbison, 2009; Lisahunter et al., 2011; Loizou, 2014), consist of talking, discussing documents, collaborating, observing a colleague teaching, and so forth. **Indirect interactions** include

observing a colleague's classroom arrangement (see 4.2.1. Material dimension), hearing them having a discussion in the staff room (Lisahunter et al., 2011), or glimpsing their pedagogical materials or pupils' products (Jurasaitė-Harbison, 2009). Even though both types of interaction constitute potential learning opportunities, most of the selected studies focused exclusively on direct interactions, while indirect ones were rarely mentioned. A possible explanation could be that these indirect interactions are harder to identify empirically, escaping the attention of both the researchers and the actors involved.

This relational dimension depends on both the school workplace and the teachers themselves. At the school level, the joint presence of actors can provoke interactions. The school organization can be structured in such a way that teachers engage in one or more groups or social networks (for example, grouped by subject departments, grade level, specific projects) where they interact and potentially learn with and/or from others. Organized arrangements such as leadership positions (Carpenter, 2015; Ghani et al., 2020), formal moments for collaboration (Collinson, 2004), mentoring (Carlyon, 2015; Engvik, 2014; Lofthouse & Thomas, 2017) or the implementation of professional learning communities (Carpenter, 2018; Halverson, 2003; Wong, 2010; Wood, 2007) can be created to prompt teacher learning opportunities. Furthermore, the relational dimension appeared in pedagogical and organizational arrangements such as co-teaching (Rytivaara & Kershner, 2012) or transitions between grade levels (Carlyon, 2015) that multiply the potential interactions with colleagues or with pupils, and as such, the potential learning opportunities. In addition, teachers themselves, based on individual agency and characteristics, also prompted interactions that were not necessarily configured by the school organizations: by participating in informal groups (de Lima, 2007) based on friendship, for instance, or external relations and social networks such as with relatives, former fellow students in initial teacher training, or experts (Engvik, 2014; Lohman & Woolf, 2001; Wong, 2010).

4.3. Teachers' multiple workplaces

Whereas in the majority of the studies, a teacher's workplace was defined as being the school workplace, the third and final theme indicates that this school workplace is less monolithic or homogeneous than often presented. This heterogeneity is visible first within the school organization. Four studies, when talking about the school as a workplace in relation to teacher learning, distinguished between what happens within the classroom and what happens outside the classroom, for instance, in the staffroom (Carlyon, 2015; Flores, 2005; Jurasaitė-Harbison & Rex, 2010; Koffeman & Snoek, 2018). Other studies ($n = 7$) highlighted that the school is composed of different sub-organizations, embodied in subject departments, grade levels or informal groups (Datnow et al., 2013; de Lima, 2007; Engvik, 2014; H. Hodkinson & Hodkinson, 2004; P. Hodkinson & Hodkinson, 2003, 2004; Jurasaitė-Harbison, 2009). These particular "social subcultures" (de Lima, 2007, p. 288) contributed to determining teacher learning and shaping teachers' opportunities for workplace learning:

Ana's positive view of the school's impact upon her development also stemmed from her membership of an informal group of staff in the school who came from different departments and which she regarded as the "core group" in the school. (de Lima, 2007, p. 291)

This implies that within the same school, some teachers may have access to different learning opportunities than others, depending on the sub-organizations to which they belong.

Heterogeneity is also visible outside the school as a workplace. Teachers' workplace learning is not limited to their professional functioning within the school. Five studies identified how a teacher also learns in two additional types of places: personal places (Ambler, 2016; Engvik, 2014; Fox et al., 2010; Lohman, 2000; Lohman & Woolf, 2001) and virtual places (Engvik, 2014; Lohman, 2000; Lohman & Woolf, 2001). Concerning **personal places**, researchers mentioned the persons inhabiting these places – family and friends, former fellow students in initial teacher

training (Ambler, 2016; Engvik, 2014; Fox et al., 2010) – and stipulated that the contacts with these persons happen during teachers' "own time" (Collinson, 2004, p. 327). Engvik (2014), for instance, showed how these personal places might provide help for resolving particular job-related challenges or reflecting upon their role and responsibilities as a teacher. Within these personal places, distance from the school creates a safe context in which teachers can reflect upon certain issues and learn:

You can talk about your job in two ways, [...]: First we have former co-students, [...] and with whom you just talk about educational challenges. In the other networks outside school [...] you can take a step back, you can talk with them about your role as a teacher. (Engvik, 2014, p. 464)

A teacher's workplace is not only a physical place, but can also be a **virtual place**. Concerning virtual places composed of websites, forums, and digital social networks, researchers (Engvik, 2014; Lohman, 2000; Lohman & Woolf, 2001) observed that these help teachers to develop their practice by providing them with new instructional ideas and teaching material: "Anne is very active on the internet, blogging and browsing for subject, resources and discussions on and exchange of teaching experiences" (Engvik, 2014, p. 463). These online social networks also enabled an increase in interactions with colleagues and with external experts (Lohman & Woolf, 2001).

5. CONCLUSION AND DISCUSSION

The objective of our meta-ethnography was to obtain an expansive understanding of a teacher's workplace and its role in the process of teachers' professional learning.

Based on our findings, we propose as our line of argument (Noblit & Hare, 1988) that a teacher's workplace gives access to three types of learning opportunities and that the workplace shapes these opportunities through its material, temporal, and relational dimensions. In addition,

we suggest considering a teacher's workplace as multiple. A teacher's workplace cannot be reduced to what happens within the school building; teachers also work in personal and virtual places. Moreover, the school workplace is not a single place; the environment itself is multiple, as teachers function in a variety of suborganizations. This multiplicity of the teacher workplace needs to be considered when studying TWPL, as teachers are confronted with different and interacting learning opportunities in these multiple places.

This line of argument brings to the fore several important theoretical considerations. We started this review study by problematizing the adoption of a fragmented approach towards teachers' workplaces when studying TWPL. Instead of considering a teacher's workplace in terms of conditions to be managed, our review invites the conceptualization of the workplace as actively co-constituting teacher professional learning. The workplace is both a social (characterized by its relational dimension) and spatial place. This implies that workplace learning is not only about a teacher having social "human-human" interactions (with colleagues or pupils, etc.), but also about a teacher working within an environment that shapes their space and time for learning ("human-workplace" interactions). In this sense, the workplace provides the teacher with clues about how to perform professional acts; Billett (2001) evoked in this regard the "indirect guidance" (p. 35) offered by the physical environment. This invites considering the workplace through a spatial paradigm (McGregor, 2003, 2004a, 2004b; Nespor, 1997, 2002). Space is not a neutral container determined by physical attributes, but is an active element that shapes the learning opportunities to which teachers have access, including through proximity, visibility, and property.

Our integrative ambition led us to question the premise, generally taken for granted in TWPL research, that a teacher's workplace is the school. Thinking of the teacher's workplace as multiple or multi-spatialized refers to the new forms of work organization (Geary, 2003; Kelliher & Richardson, 2012) that have emerged, notably due to the arrival of information and communication technologies (Halford, 2005; Regan & Delaney, 2011), such as working at home,

teleworking, shared offices, and so forth. These new forms of work have been studied for numerous professions and have received renewed attention since the COVID-19 crisis (Felstead & Reuschke, 2020). However, these forms of work organization are part of the historical and traditional organization of teachers' work in many educational systems, in which teachers spend almost half of their working time (especially for secondary teachers) outside the school (OECD, 2021). Nevertheless, the phenomenon of teachers' multi-spatialized work is still rarely considered in TWPL research, which ignores how these contexts and their resources are interrelated, and as such, together determine teacher professional learning (Maxwell, 2014). While boundary processes between schools and other contexts have been studied for particular groups of teachers, such as VET teachers (between VET schools and work contexts; Andersson & Köpsén, 2019) or in partnerships between schools and universities (Daza et al., 2021), we think it would be worthwhile to analyze such boundary processes for teacher professional learning in general. In this sense, following Clandinin and Connelly (1996) and more recently Wenger-Trayner and colleagues (2014), we suggest adopting the "landscape" metaphor to describe the context of knowledge and learning. This metaphor allows description of a teacher's learning environment as composed of multiple places or communities of practice through which the teacher makes an individual journey. In this sense, the landscape metaphor seems promising for studying teachers' multiple workplaces, the learning opportunities teachers encounter in these workplaces and the interrelations among them.

Our review also contributes to our understanding of what types of learning opportunities are offered by the workplace. Our three-way typology confirms the learning models developed by other researchers: learning from oneself, from others, and from non-interpersonal sources (Noe et al., 2013); doing, experimenting, and reflecting; learning from others in interactions and learning from others without interaction (Meirink et al., 2007); and practice, social context, and theory (Koffeman & Snoek, 2018). Koffeman and Snoek's (2018) typology is the most closely related to

ours in considering that the type of learning ranges from the most specific and personal experiences, which Koffeman and Snoek (2018, p. 462) called “first-hand experience”, to the most general and abstract “third-hand experience”. Our results invite broadening the definition of third-hand opportunities, by going beyond the use of theory or what is termed theoretical knowledge. Nowadays, teachers also access other types of knowledge, for example, in books and magazines or through social media platforms where other teachers or instructional influencers create content and share practical knowledge (Marcelo & Marcelo, 2021; Shelton et al., 2020). Therefore, it is important to capture the diversity of third-hand experiences that are being increasingly used by teachers, due to the growing amount of instructional material available online (Wahlstedt et al., 2008).

We end this article with a reflection on our study's limitations and present potential avenues for research, policy and practice.

As any exercise in synthesis involves making choices, our keyword search strategy presented evident limits. By using keywords focusing on the teacher's *workplace*, the selection of 51 articles reflects only a part of the literature on TWPL. Our syntax led to the inclusion of studies in which the school as workplace was the central learning context, ignoring other contexts in which teachers learn. This explains why studies on learning happening outside the school workplace and learning in virtual contexts (e.g., Beilstein et al., 2021; Borko et al., 2010; Ernest et al., 2013; Hilli, 2020) were absent from our selection. Moreover, teacher learning through formal learning activities in schools (Postholm, 2018) was also absent from our selection. Even though there is a call for overcoming dichotomies, research on teacher learning has only recently begun shifting towards a nuanced approach. Insofar as a review study is a retrospective act, it presents the dominant focus up until now on informal learning within TWPL. Future review studies could address this gap related to our research syntax, by focusing particularly on the role of out-of-school places in teacher learning and formal learning within school contexts.

Considering a teacher's workplace as multiple invites researchers to study the interdependencies of these places and the learning opportunities they encompass. In this sense, conceptualizing teacher learning as an individual network of learning opportunities that must be considered in relation to the collective learning within the school seems a promising avenue for researchers. Our three-way typology for understanding TWPL, moreover, invites studying to what extent and how teachers *generate* learning opportunities within and outside of their school that complement the formal opportunities. Finally, our meta-ethnographic study could inspire those responsible for teacher workplace learning to see the school workplace through a broader lens. Instead of focusing on certain conditions, our synthesis invites school actors to critically study the workplace's material, temporal and relational configuration, and the interplay between these dimensions. In addition, this synthesis might provide useful information for policymakers in reflecting on how to connect learning opportunities outside the school with professional practice within the school.

6. REFERENCES

References marked with an asterisk indicate studies included in the literature review.

- *Admiraal, W., Kruiter, J., Lockhorst, D., Schenke, W., Sligte, H., Smit, B., Tigelaar, D., & de Wit, W. (2016). Affordances of teacher professional learning in secondary schools. *Studies in Continuing Education, 38*(3), 281-298.
<https://doi.org/10.1080/0158037X.2015.1114469>
- *Ambler, T. B. (2016). The day-to-day work of primary school teachers: A source of professional learning. *Professional Development in Education, 42*(2), 276-289.
<https://doi.org/10.1080/19415257.2014.998343>

- *Ancess, J. (2000). The reciprocal influence of teacher learning, teaching practice, school restructuring, and student learning outcomes. *Teachers College Record*, 102(3), 590-619. <https://doi.org/10.1111/0161-4681.00069>
- Andersson, P., & Köpsén, S. (2019). VET teachers between school and working life: Boundary processes enabling continuing professional development. *Journal of Education and Work*, 32(6-7), 537-551. <https://doi.org/10.1080/13639080.2019.1673888>
- Atkins, S., Lewin, S., Smith, H., Engel, M., Fretheim, A., & Volmink, J. (2008). Conducting a meta-ethnography of qualitative literature: Lessons learnt. *BMC Medical Research Methodology*, 8(1). <https://doi.org/10.1186/1471-2288-8-21>
- *Attard Tonna, M., & Shanks, R. (2017). The importance of environment for teacher professional learning in Malta and Scotland. *European Journal of Teacher Education*, 40(1), 91-109. <https://doi.org/10.1080/02619768.2016.1251899>
- Banks, F., Leach, J., & Moon, B. (1999). New understandings of teachers' pedagogic knowledge. In J. Leach & B. Moon (Eds.), *Learners and pedagogy* (pp. 89-110). Paul Chapman and The Open University.
- Beilstein, S. O., Henricks, G. M., Jay, V., Perry, M., Bates, M. S., Moran, C. G., & Cimpian, J. R. (2021). Teacher voices from an online elementary mathematics community: Examining perceptions of professional learning. *Journal of Mathematics Teacher Education*, 24(3), 283-308. <https://doi.org/10.1007/s10857-020-09459-z>
- Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning*, 13(5), 209-214. <https://doi.org/10.1108/EUM0000000005548>
- Billett, S. (2002, April). *Workplace learning as co-participation*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

- Billett, S. (2004). Workplace participatory practices: Conceptualising workplaces as learning environments. *Journal of Workplace Learning*, 16(6), 312-324.
<https://doi.org/10.1108/13665620410550295>
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15.
- Borko, H., Jacobs, J., & Koellner, K. (2010). Contemporary approaches to teacher professional development. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International encyclopedia of education* (3rd ed., pp. 548-556). Elsevier. <https://doi.org/10.1016/B978-0-08-044894-7.00654-0>
- Buttram, J. L., & Farley-Ripple, E. N. (2016). The role of principals in professional learning communities. *Leadership and Policy in Schools*, 15(2), 192-220.
<https://doi.org/10.1080/15700763.2015.1039136>
- Cairns, L., & Malloch, M. (2011). Theories of work, place and learning: New directions. In M. Malloch, L. Cairns, K. Evans, & B. N. O'Connor (Eds.), *The SAGE handbook of workplace learning* (pp. 3-16). SAGE.
- *Carlyon, T. (2015). Teacher transition between year levels in primary schools: An opportunity for continuing professional development. *Professional Development in Education*, 41(3), 563-578. <https://doi.org/10.1080/19415257.2014.902859>
- *Carpenter, D. (2015). School culture and leadership of professional learning communities. *International Journal of Educational Management*, 29(5), 682-694.
<https://doi.org/10.1108/IJEM-04-2014-0046>
- *Carpenter, D. (2018). Intellectual and physical shared workspace: Professional learning communities and the collaborative culture. *International Journal of Educational Management*, 32(1), 121-140. <https://doi.org/10.1108/IJEM-05-2017-0104>

Clandinin, D. J., & Connelly, F. M. (1996). Teachers' professional knowledge landscapes:

Teacher stories—stories of teachers—school stories—stories of schools. *Educational Researcher*, 25(3), 24-30.

*Clement, M., & Vandenberghe, R. (2000). Teachers' professional development: A solitary or collegial (ad)venture? *Teaching and Teacher Education*, 16(1), 81-101.

[https://doi.org/10.1016/S0742-051X\(99\)00051-7](https://doi.org/10.1016/S0742-051X(99)00051-7)

*Clement, M., & Vandenberghe, R. (2001). How school leaders can promote teachers' professional development. An account from the field. *School Leadership & Management*, 21(1), 43-57. <https://doi.org/10.1080/13632430120033036>

Coffield, F. (Ed.). (2000). *The necessity of informal learning* (Vol. 4). Policy Press.

*Collinson, V. (2004). Learning to share, sharing to learn: Fostering organizational learning through teachers' dissemination of knowledge. *Journal of Educational Administration*, 42(3), 312-332. <https://doi.org/10.1108/09578230410534658>

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE Publications.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.
<https://learningpolicyinstitute.org/product/teacher-prof-dev>

Darling-Hammond, L., & Richardson, N. (2009). Teacher learning: What matters? *Educational Leadership*, 66(5), 46-53.

*Datnow, A., Park, V., & Kennedy-Lewis, B. (2013). Affordances and constraints in the context of teacher collaboration for the purpose of data use. *Journal of Educational Administration*, 51(3), 341-362. <https://doi.org/10.1108/09578231311311500>

- Daza, V., Gudmundsdottir, G. B., & Lund, A. (2021). Partnerships as third spaces for professional practice in initial teacher education: A scoping review. *Teaching and Teacher Education*, 102, 103338.
- *de Lima, J. Á. (2007). Teachers' professional development in departmentalised, loosely coupled organisations: Lessons for school improvement from a case study of two curriculum departments. *School Effectiveness and School Improvement*, 18(3), 273-301. <https://doi.org/10.1080/09243450701434156>
- Dixon-Woods, M., Booth, A., & Sutton, A. J. (2007). Synthesizing qualitative research: A review of published reports. *Qualitative Research*, 7(3), 375-422.
- *Engvik, G. (2014). The importance of networks for newly qualified teachers in upper secondary education. *Educational Research*, 56(4), 453-472. <https://doi.org/10.1080/00131881.2014.965574>
- Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247-273.
- Ernest, P., Guitert Catasús, M., Hampel, R., Heiser, S., Hopkins, J., Murphy, L., & Stickler, U. (2013). Online teacher development: Collaborating in a virtual learning environment. *Computer Assisted Language Learning*, 26(4), 311-333. <https://doi.org/10.1080/09588221.2012.667814>
- Felstead, A., & Reuschke, D. (2020). *Homeworking in the UK: Before and during the 2020 lockdown*. WISERD Report, Cardiff. Wales Institute of Social and Economic Research. Available for download from: <https://wiserd.ac.uk/publications/homeworking-uk-and-during-2020-lockdown>
- *Flores, M. A. (2004). The impact of school culture and leadership on new teachers' learning in the workplace. *International Journal of Leadership in Education*, 7(4), 297-318. <https://doi.org/10.1080/1360312042000226918>

- *Flores, M. A. (2005). How do teachers learn in the workplace? Findings from an empirical study carried out in Portugal. *Journal of In-service Education*, 31(3), 485-508.
<https://doi.org/10.1080/13674580500200491>
- *Flores, M. A. (2006). Being a novice teacher in two different settings: Struggles, continuities, and discontinuities. *Teachers College Record*, 108(10), 2021-2052.
<https://doi.org/10.1111/j.1467-9620.2006.00773.x>
- *Fox, A., Deaney, R., & Wilson, E. (2010). Examining beginning teachers' perceptions of workplace support. *Journal of Workplace Learning*, 22(4), 212-227.
<https://doi.org/10.1108/13665621011040671>
- France, E. F., Uny, I., Ring, N., Turley, R. L., Maxwell, M., Duncan, E. A., ... & Noyes, J. (2019). A methodological systematic review of meta-ethnography conduct to articulate the complex analytical phases. *BMC Medical Research Methodology*, 19(1), 1-18.
- Fraser, C. A. (2010). Continuing professional development and learning in primary science classrooms. *Teacher Development*, 14(1), 85-106.
- Friedman, A., & Phillips, M. (2004). Continuing professional development: Developing a vision. *Journal of Education and Work*, 17(3), 361-376.
<https://doi.org/10.1080/1363908042000267432>
- Fuller, A., & Unwin, L. (2006). Applying the expansive-restrictive framework. In K. Evans, P. Hodgkinson, H. Rainbird, & L. Unwin (Eds.), *Improving workplace learning* (pp. 49-67). Routledge.
- *Furner, C., & McCulla, N. (2019). An exploration of the influence of school context, ethos and culture on teacher career-stage professional learning. *Professional Development in Education*, 45(3), 505-519.

- *Gaikhorst, L., März, V., du Pré, R., & Geijssels, F. (2019). Workplace conditions for successful teacher professional development: School principals' beliefs and practices. *European Journal of Education*, 54(4), 605-620. <https://doi.org/10.1111/ejed.12366>
- *Gao, S., & Wang, J. (2014). Teaching transformation under centralized curriculum and teacher learning community: Two Chinese chemistry teachers' experiences in developing inquiry-based instruction. *Teaching and Teacher Education*, 44, 1-11. <https://doi.org/10.1016/j.tate.2014.07.008>
- Geary, J. (2003). New forms of work organization: Still limited, still controlled, but still welcome. In P. Edwards (Ed.), *Industrial relations: Theory and practice* (pp. 338-367). Blackwell.
- Gess-Newsome, J. (2002). Pedagogical content knowledge: An introduction and orientation. In J. Gess-Newsome & N. G. Lederman (Eds.), *Examining pedagogical content knowledge* (Vol. 6, pp. 3-17). Kluwer Academic. https://doi.org/10.1007/0-306-47217-1_1
- *Ghani, M. F. A., Velarde, J. M., & Crow, G. M. (2020). School improvement in the United States: Practices of professional learning communities from school leaders' perspectives. *Malaysian Online Journal of Educational Management*, 8(4), 57-78.
- *Grosemans, I., Boon, A., Verclairen, C., Dochy, F., & Kyndt, E. (2015). Informal learning of primary school teachers: Considering the role of teaching experience and school culture. *Teaching and Teacher Education*, 47, 151-161. <https://doi.org/10.1016/j.tate.2014.12.011>
- Gurl, T. J., Caraballo, L., Grey, L., Gunn, J. H., Gerwin, D., & Bembenuddy, H. (2016). *Policy, professionalization, privatization, and performance assessment: Affordances and constraints for teacher education programs*. Springer.

- Haemer, H. D., Borges-Andrade, J. E., & Cassiano, S. K. (2017). Learning strategies at work and professional development. *Journal of Workplace Learning*, 29(6), 490-506.
<https://doi.org/10.1108/JWL-05-2016-0037>
- Halford, S. (2005). Hybrid workspace: Re-spatialisations of work, organisation and management. *New Technology, Work and Employment*, 20(1), 19-33. <https://doi.org/10.1111/j.1468-005X.2005.00141.x>
- *Halverson, R. R. (2003). Systems of practice: How leaders use artifacts to create professional community in schools. *Education Policy Analysis Archives*, 11(37).
<https://doi.org/10.14507/epaa.v11n37.2003>
- Hannes, K., & Lockwood, C. (2011). *Synthesizing qualitative research: Choosing the right approach*. John Wiley & Sons.
- Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. Cassell.
- Hilli, C. (2020). Extending classrooms through teacher collaboration in virtual learning environments. *Educational Action Research*, 28(4), 700-715.
<https://doi.org/10.1080/09650792.2019.1654901>
- *Hodkinson, H., & Hodkinson, P. (2004). Rethinking the concept of community of practice in relation to schoolteachers' workplace learning. *International Journal of Training and Development*, 8(1), 21-31. <https://doi.org/10.1111/j.1360-3736.2004.00193.x>
- Hodkinson, H., & Hodkinson, P. (2005). Improving schoolteachers' workplace learning. *Research Papers in Education*, 20(2), 109-131.
<https://doi.org/10.1080/02671520500077921>
- *Hodkinson, P., & Hodkinson, H. (2003). Individuals, communities of practice and the policy context: School teachers' learning in their workplace. *Studies in Continuing Education*, 25(1), 3-21.

- *Hodkinson, P., & Hodkinson, H. (2004). The significance of individuals' dispositions in workplace learning: A case study of two teachers. *Journal of Education and Work, 17*(2), 167-182. <https://doi.org/10.1080/13639080410001677383>
- Hoekstra, A., & Korthagen, F. A. J. (2011). Teacher learning in a context of educational change: Informal learning versus systematic support. *Journal of Teacher Education, 62*(1), 76-92.
- *Hoekstra, A., Korthagen, F., Brekelmans, M., Beijjaard, D., & Imants, J. (2009). Experienced teachers' informal workplace learning and perceptions of workplace conditions. *Journal of Workplace Learning, 21*(4), 276-298. <http://dx.doi.org/10.1108/13665620910954193>
- *Horn, I. S. (2005). Learning on the job: A situated account of teacher learning in high school mathematics departments. *Cognition and Instruction, 23*(2), 207-236. https://doi.org/10.1207/s1532690xci2302_2
- *Horn, I. S., & Little, J. W. (2010). Attending to problems of practice: Routines and resources for professional learning in teachers' workplace interactions. *American Educational Research Journal, 47*(1), 181-217. <https://doi.org/10.3102/0002831209345158>
- Hoyle, E. (1982). The professionalization of teachers: A paradox. *British Journal of Educational Studies, 30*(2), 161-171. <https://doi.org/10.1080/00071005.1982.9973622>
- Imants, J., & van Veen, K. (2010). Teacher learning as workplace learning. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International encyclopedia of education* (3rd ed., pp. 569-574). Elsevier.
- Ingersoll, R. M., Alsalam, N., Bobbitt, S., & Quinn, P. (1997). *Teacher professionalization and teacher commitment: A multilevel analysis*. DIANE.
- *Jurasaitė-Harbison, E. (2009). Teachers' workplace learning within informal contexts of school cultures in the United States and Lithuania. *Journal of Workplace Learning, 21*(4), 299-321. <https://doi.org/10.1108/13665620910954201>

*Jurasaitė-Harbison, E., & Rex, L. A. (2010). School cultures as contexts for informal teacher learning. *Teaching and Teacher Education*, 26(2), 267-277.

<https://doi.org/10.1016/j.tate.2009.03.012>

Jurasaitė-O'Keefe, E. (2021). *Individual, school, and national factors impacting teachers' workplace learning: Discourses of informal learning in North America and Lithuania*.

Routledge. <https://doi.org/10.4324/9780367816605>

Kelliher, C., & Richardson, J. (Eds.). (2012). *New ways of organizing work: Developments, perspectives and experiences*. Routledge.

<https://doi.org/10.1108/dlo.2012.08126eaa.012>

*Koffeman, A., & Snoek, M. (2018). Identifying context factors as a source for teacher professional learning. *Professional Development in Education*, 45(3), 456-471.

<https://doi.org/10.1080/19415257.2018.1557239>

Kwakman, K. (2003). Factors affecting teachers' participation in professional learning. *Teaching and Teacher Education*, 19, 149-170. [https://doi.org/10.1016/S0742-051X\(02\)00101-4](https://doi.org/10.1016/S0742-051X(02)00101-4)

Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers' everyday professional development: Mapping informal learning activities, antecedents, and learning outcomes.

Review of Educational Research, 86(4), 1111-1150.

<https://doi.org/10.3102/0034654315627864>

Lampert, M. (2010). Learning teaching in, from, and for practice: What do we mean? *Journal of Teacher Education*, 61(1-2), 21-34. <https://doi.org/10.1177/0022487109347321>

Lecat, A., Raemdonck, I., Beusaert, S., & März, V. (2019). The what and why of primary and secondary school teachers' informal learning activities. *International Journal of*

Educational Research, 96, 100-110. <https://doi.org/10.1016/j.ijer.2019.06.003>

- Lecat, A., Spaltman, Y., Beusaert, S., Raemdonck, I., & Kyndt, E. (2020). Two decennia of research on teachers' informal learning: A literature review on definitions and measures. *Educational Research Review*, 30, 1-15.
- Leeferink, H., Koopman, M., Beijaard, D., & Ketelaar, E. (2015). Unraveling the complexity of student teachers' learning in and from the workplace. *Journal of Teacher Education*, 66(4), 334-348. <https://doi.org/10.1177/0022487115592163>
- *Levine, T. H., & Marcus, A. S. (2010). How the structure and focus of teachers' collaborative activities facilitate and constrain teacher learning. *Teaching and Teacher Education*, 26(3), 389-398.
- *Lipscombe, K., Buckley-Walker, K., & McNamara, P. (2020). Understanding collaborative teacher teams as open systems for professional development. *Professional Development in Education*, 46(3), 373-390. <https://doi.org/10.1080/19415257.2019.1613256>
- *Lisahunter, R., Rossi, T., Tinning, R., Flanagan, E., & Macdonald, D. (2011). Professional learning places and spaces: The staffroom as a site of beginning teacher induction and transition. *Asia-Pacific Journal of Teacher Education*, 39(1), 33-46. <https://doi.org/10.1080/1359866X.2010.542234>
- Little, J. W. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. *American Educational Research Journal*, 19(3), 325-340.
- Little, J. W. (2012). Professional community and professional development in the learning-centered school. In M. Kooy & K. Van Veen (Eds.), *Teacher learning that matters: International perspectives* (pp. 22-43). Routledge.
- Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence-Based Healthcare*, 13(3), 179-187.

- *Lofthouse, R., & Thomas, U. (2017). Concerning collaboration: Teachers' perspectives on working in partnerships to develop teaching practices. *Professional Development in Education*, 43(1), 36-56. <https://doi.org/10.1080/19415257.2015.1053570>
- *Lohman, M. C. (2000). Environmental inhibitors to informal learning in the workplace: A case study of public school teachers. *Adult Education Quarterly*, 50(2), 83-101. <https://doi.org/10.1177/07417130022086928>
- *Lohman, M. C. (2003). Work situations triggering participation in informal learning in the workplace: A case study of public school teachers. *Performance Improvement Quarterly*, 16(1), 40-54.
- *Lohman, M. C., & Woolf, N. H. (2001). Self-initiated learning activities of experienced public school teachers: Methods, sources, and relevant organizational influences. *Teachers and Teaching: Theory and Practice*, 7(1), 59-74. <https://doi.org/10.1080/135406000020029873>
- *Loizou, F. (2014). Organisational conditions to boost or limit professional development in the Cypriot primary school. *Education 3-13*, 42(2), 171-189. <https://doi.org/10.1080/03004279.2012.668138>
- *Louws, M. L., Meirink, J. A., van Veen, K., & van Driel, J. H. (2017). Exploring the relation between teachers' perceptions of workplace conditions and their professional learning goals. *Professional Development in Education*, 43(5), 770-788. <https://doi.org/10.1080/19415257.2016.1251486>
- Maeda, Y., Caskurlu, S., Kenney, R. H., Kozan, K., & Richardson, J. C. (2022). Moving qualitative synthesis research forward in education: A methodological systematic review. *Educational Research Review*, 35, 100424.
- Majid, U., & Vanstone, M. (2018). Appraising qualitative research for evidence syntheses: a compendium of quality appraisal tools. *Qualitative Health Research*, 28(13), 2115-2131.

- Marcelo, C., & Marcelo, P. (2021). Influencers educativos en Twitter. Análisis de hashtags y estructura relacional [Educational influencers on Twitter. Analysis of hashtags and relationship structure]. *Comunicar*, 29(68), 73-83. <https://doi.org/10.3916/C68-2021-06>
- Maxwell, B. (2014). Improving workplace learning of lifelong learning sector trainee teachers in the UK. *Journal of Further and Higher Education*, 38(3), 377-399. <https://doi.org/10.1080/0309877X.2013.831036>
- McGregor, J. (2003). Making spaces: Teacher workplace topologies. *Pedagogy, Culture & Society*, 11(3), 353-377. <https://doi.org/10.1080/14681360300200179>
- McGregor, J. (2004a). *Spatiality and teacher workplace cultures*. The Open University. <http://oro.open.ac.uk/59560/1/403831.pdf>
- McGregor, J. (2004b). Spatiality and the place of the material in schools. *Pedagogy, Culture & Society*, 12(3), 347-372. <https://doi.org/10.1080/14681360400200207>
- Meeuwen, P. V., Huijboom, F., Rusman, E., Vermeulen, M., & Imants, J. (2020). Towards a comprehensive and dynamic conceptual framework to research and enact professional learning communities in the context of secondary education. *European Journal of Teacher Education*, 43(3), 405-427. <https://doi.org/10.1080/02619768.2019.1693993>
- Meirink, J. A., Meijer, P. C., & Verloop, N. (2007). A closer look at teachers' individual learning in collaborative settings. *Teachers and Teaching*, 13(2), 145-164. <https://doi.org/10.1080/13540600601152496>
- Meirink, J. A., Meijer, P. C., Verloop, N., & Bergen, T. C. M. (2009). How do teachers learn in the workplace? An examination of teacher learning activities. *European Journal of Teacher Education*, 32(3), 209-224. <https://doi.org/10.1080/02619760802624096>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>

- *Moraal, E., de Vries, S., & van Veen, K. (2020). De relatie tussen schoolvisie, schoolcultuur en professionaliseringsactiviteiten van ervaren docenten [The relationship between school vision, school culture and professional development activities of experienced teachers]. *Pedagogische studiën*, 97(6), 403-419.
- Nespor, J. (1997). *Tangled up in school: Politics, space, bodies, and signs in the educational process*. Lawrence Erlbaum. <https://www.routledge.com/Tangled-Up-in-School-Politics-Space-Bodies-and-Signs-in-the-Educational/Nespor/p/book/9780805826531>
- Nespor, J. (2002). Studying the spatialities of schooling. *Pedagogy, Culture & Society*, 10(3), 483-491. <https://doi.org/10.1080/14681360200200155>
- Noblit, G. W. (2019). Meta-ethnography in education. In G. W. Noblit (Ed.), *Oxford research encyclopedia of education*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190264093.013.348>
- Noblit, G. W., & Hare, R. D. (1988). *Meta-ethnography: Synthesizing qualitative studies*. SAGE Publications.
- Noe, R. A., Tews, M. J., & Marand, A. D. (2013). Individual differences and informal learning in the workplace. *Journal of Vocational Behavior*, 83(3), 327-335. <https://doi.org/10.1016/j.jvb.2013.06.009>
- OECD. (2021) *Education at a glance 2021, OECD indicators*. <https://doi.org/10.1787/b35a14e5-en>
- Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376-407. <https://doi.org/10.3102/0034654311413609>
- Paterson, B. L. (2011). It looks great but how do I know if it fits? An introduction to meta-synthesis research. In K. Hannes & C. Lockwood (Eds.), *Synthesizing qualitative research: Choosing the right approach*, (pp. 1-20). John Wiley & Sons.

- *Popp, J. S., & Goldman, S. R. (2016). Knowledge building in teacher professional learning communities: Focus of meeting matters. *Teaching and Teacher Education*, 59, 347-359. <https://doi.org/10.1016/j.tate.2016.06.007>
- Postholm, M. B. (2018). Teachers' professional development in school: A review study. *Cogent Education*, 5(1), 1522781.
- Putnam, R. T., & Borko, H. (2012). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15.
- Regan, E., & Delaney, C. (2011). Brave new workplace: The impact of technology on location and job structures. In M. Malloch, L. Cairns, K. Evans, & B. N. O'Connor (Eds.), *The SAGE handbook of workplace learning* (pp. 431-442). SAGE. [10.4135/9781446200940.n32](https://doi.org/10.4135/9781446200940.n32)
- Richardson, V., & Placier, P. (2001). Teacher change. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 905-947). American Educational Research Association.
- Rosenholtz, S. J., Bassler, O., & Hoover-Dempsey, K. (1986). Organizational conditions of teacher learning. *Teaching and Teacher Education*, 2(2), 91-104. [https://doi.org/10.1016/0742-051X\(86\)90008-9](https://doi.org/10.1016/0742-051X(86)90008-9)
- *Rytivaara, A., & Kershner, R. (2012). Co-teaching as a context for teachers' professional learning and joint knowledge construction. *Teaching and Teacher Education*, 28(7), 999-1008. <https://doi.org/10.1016/j.tate.2012.05.006>
- *Schei, V., & Nerbø, I. (2015). The invisible learning ceiling: Informal learning among preschool teachers and assistants in a Norwegian kindergarten. *Human Resource Development Quarterly*, 26(3), 299-328. <https://doi.org/10.1002/hrdq.21213>

- *Scribner, J. P., Hager, D. R., & Warne, T. R. (2002). The paradox of professional community: Tales from two high schools. *Educational Administration Quarterly*, 38(1), 45-76.
<https://doi.org/10.1177/0013161X02381003>
- *Shanks, R., Robson, D., & Gray, D. (2012). New teachers' individual learning dispositions: a Scottish case study. *International Journal of Training and Development*, 16(3), 183-199.
- Shelton, C., Curcio, R., & Schroeder, S. (2020). Instagramming their hearts out: Teacher influencers on Instagram. In D. Schmidt-Crawford (Ed.), *Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 1486-1492). Association for the Advancement of Computing in Education (AACE).
- Smaller, H. (2005). Teacher informal learning and teacher knowledge: Theory, practice and policy. In N. Bascia, A. Cumming, A. Datnow, K. Leithwood, & D. Livingstone (Eds.), *International handbook of educational policy* (Vol. 13, pp. 543-568). Springer Netherlands. https://doi.org/10.1007/1-4020-3201-3_27
- Smylie, M. A. (1995). Teacher learning in the workplace: Implications for school reform. In T. R. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 92-113). Teachers College Press.
- Spillane, J. P., Shirrell, M., & Sweet, T. M. (2017). The elephant in the schoolhouse: The role of propinquity in school staff interactions about teaching. *Sociology of Education*, 90(2), 149-171. <https://doi.org/10.1177/0038040717696151>
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. SAGE.
- Svendsen, B. (2020). Inquiries into teacher professional development—What matters? *Education*, 140(3), 111-130.

- *Tallman, T. O. (2019). How middle grades teachers experience a collaborative culture: An interpretative phenomenological analysis. *RMLE Online*, 42(8), 1-16.
<https://doi.org/10.1080/19404476.2019.1668103>
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review*, 15, 17-40.
- Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education*, 61, 47-59. <https://doi.org/10.1016/j.tate.2016.10.001>
- Wahlstedt, A., Pekkola, S., & Niemelä, M. (2008). From e-learning space to e-learning place. *British Journal of Educational Technology*, 39(6), 1020-1030.
https://doi.org/10.1111/j.1467-8535.2008.00821_1.x
- Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of Educational Research*, 79(2), 702-739.
- Wenger-Trayner, E., Fenton-O'Creevy, M., Hutchinson, S., Kubiak, C., & Wenger-Trayner, B. (Eds.). (2014). *Learning in landscapes of practice: Boundaries, identity, and knowledgeability in practice-based learning*. Routledge.
- Wilson, K. A. (2018). The professionalization of teachers. In W. Walker, R. Farquhar, & M. Hughes (Eds.), *Advancing education* (pp. 64-78). Routledge.
- *Wong, J. L. N. (2010). Searching for good practice in teaching: A comparison of two subject-based professional learning communities in a secondary school in Shanghai. *Compare: A Journal of Comparative and International Education*, 40(5), 623-639.
<https://doi.org/10.1080/03057920903553308>
- *Wood, D. (2007). Teachers' learning communities: Catalyst for change or a new infrastructure for the status quo? *Teachers College Record*, 109(3), 699-739.

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*Zhang, X., & Wong, J. L. (2018). How do teachers learn together? A study of school-based teacher learning in China from the perspective of organisational learning. *Teachers and Teaching*, 24(2), 119-134.