Review

Teacher communities as a context for professional development: A systematic review

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HIGHLIGHTS

- Community appears to be a fuzzy concept, in literature and practice.
- Three different types of teacher communities (TCs) can be distinguished.
- The presence of different stakeholders influences the functioning of TCs.
- Conditions for TCs' success include leadership, group dynamics, trust, and respect.

ARTICLE INFO

ABSTRACT

Teacher communities play a central role in teachers' professional development. This study provides a systematic review of empirical research on teacher communities (TCs). Based upon predefined selection criteria, 40 studies were analysed using a narrative method. Three different types of TCs were identified: formal, member-oriented with a pre-set agenda, and formative TCs. Results showed that different stakeholders (governments, school principals, teachers) are involved and their different perspectives and degrees of involvement (distinguishing between TCs realised bottom-up or top-down) impact TCs. Finally, several conditions for success were reported: supportive leadership, group dynamics and composition, and trust and respect.

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1. Introduction

Teachers are required to keep learning due to the continuous changes present in current society that impact the teaching profession (Grosemans, Boon, Verclairen, Dochy, & Kyndt, 2015). Prior research has shown that a teacher's learning and professional development are related to changes in the teacher's cognition, orientation towards students, professional attitude and identity, subject knowledge, and pedagogical knowledge and skills (De Vries, Jansen, & van de Grift, 2013; Kyndt, Gijbels, Grosemans, & Donche, 2016; Meirink, Meijer, & Verloop, 2007). Kyndt et al. (2016) present a holistic integration of various learning activities undertaken by teachers in their daily practice. These can be divided into individual learning activities (e.g., individual information gathering, reflection, encountering difficulties) and learning activities together with colleagues (e.g., collaboration, sharing, participating in extra-curricular activities). The latter have specific importance for this study and have been conceptualised in various ways, describing different collective arrangements in which learning can take place. A frequently proposed framework in this regard is that of *communities*, as teacher communities (TCs) seem to hold promise in areas wherein traditional forms of professional development have fallen short. For example, teachers' own experiences and practical needs are taken into account as indispensable to their professional development, and teachers are deemed able to provide much of the learning content on their own, as opposed to being taught by external experts (Boone, 2010; Westheimer, 2008). TCs have also been described as a structure for continuous school improvement through the building of teachers' competence for learning and change. Well-developed TCs have been shown to positively impact teaching practice and student achievement (Hord, 2004; Lomos, Hofman, & Bosker, 2011; Vescio, Ross, & Adams, 2008).

Given the important role TCs can play in the professional development of teachers, the current systematic review focuses on this topic. Because the concept of communities appears to be used in different ways to describe different types of TCs, this review firstly investigates which different types have been empirically distinguished, and what their specific features are. Secondly, given that different stakeholders are involved in TCs, the review aims to investigate the role and impact of the stakeholders in TCs. Finally, the circumstances under which these communities are deemed

successful are examined in order to provide a framework for supporting TCs functioning.

2. Theoretical background

Over the past 15 years, research on teacher professional development has shown a significant growth in the number of studies on professional development in TCs. Several terms for TCs are used in this field of research, often without specifying the corresponding underlying theoretical model. Overall, studies tend to refer to one of two dominant theoretical frameworks: teacher professional learning communities (PLCs) and communities of practice (CoPs).

Below, the conceptual background and origins of both PLCs on the one hand and CoPs on the other hand will be discussed.

2.1. Professional learning communities

2.1.1. Origins

Compared to CoPs, the construct PLCs is more specific to the educational context (Owen, 2014). It was proposed by DuFour and Eaker (1998) as the educational counterpart to the learning organisation construct introduced by Senge (1990). While the construct of learning organisation − implying efficiency and structure - is dominant in business organisations, the professional learning community − implying being linked by common interest - framework is presented as the translation of that construct to the context of schools (DuFour & Eaker, 1998).

The notion of PLCs, in the sense of teachers getting together for professional development purposes, began to be increasingly popular three decades ago (Barth, 1990; Sizer, 1992). Challenges provided by reforms in school improvement and teacher professional development pushed towards innovations (Boone, 2010; Little, 1999; McLaughlin, 1993; Westheimer, 2008). Traditional "one-shot workshops," maintaining teacher isolation in professional development, were considered insufficient and PLCs have been put forward as an added value (Lumpe, 2007). As teachers began collaborating with peers on effective classroom practices, PLCs became renowned as the answer to teacher isolation and an effective means for realising collaborative decision-making, raising teacher satisfaction, and stimulating student achievement (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Many, 2006; Hord & Sommers, 2008; Hord, 1997, 2004).

2.1.2. Characteristics

Hord (1997), and Hord and Sommers (2008) argue that a PLC is a school staff team, which works collaboratively and collegially in order to improve student learning. Similarly, Bolam, McMahon, Stoll, Thomas, and Wallace (2005) describe a PLC as a community *"with the capacity to promote and sustain the learning of all professionals in the school community with the collective purpose of enhancing student learning"* (p. 145). Different authors appear to ascribe different characteristics to a PLC. Hord (1997), and Hord and Sommers (2008) list five defining characteristics of PLCs that appear to be the most prominent in literature:

(a) *Supportive and shared leadership.* It is necessary that the school leader and administrators support the teachers' needs and views, and that they work collaboratively towards academic improvement. Teachers and school leaders need to share the leadership of the PLC, as teachers should be included as equal PLC members, having ownership of the PLC's work and achievements (Boone, 2010; Hord, 1997). Similarly, Vescio et al. (2008) found teacher authority – the teachers' ability to make decisions regarding their PLC and aspects of school governance – to be inherent to PLCs that worked to promote positive change in teaching cultures.

(b) *Shared values, vision, and goals.* PLC members have a common purpose, views, and norms with regard to the PLC, in order to develop personal and professional trust among themselves, and to collectively pursue the PLC's goals (Boone, 2010; Hord, 1997; Newmann, 1996; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Webb, Vulliamy, Sarja, Hämäläinen, & Poikonen, 2009)

(c) *Collective learning and application.* Cognitive resources of all members are combined in a PLC, that is, members continuously apply new knowledge and skills in order to improve their teaching (DuFour & Eaker, 1998; Stoll et al., 2006). Continuous teacher learning is driven by teachers' needs and reflective dialogue, including continuously discussing curriculum, instruction, and student development; this is argued to be a core characteristic of PLCs (Newmann, 1996; Vescio et al., 2008). Brodie (2014) and Webb et al. (2009) describe the latter as reflective professional inquiry.

(d) *Shared individual practice.* Educators talk and reflect on primary educational matters or problems, conduct peer observation, and model colleagues' practices in non-evaluative ways (Hord, 1997). Similarly, Newmann (1996) argued that de-privatising practice, in order to make teaching public, is one of the characteristics of a PLC. In addition, Webb et al. (2009) argued collaboration and collective responsibility to be central to a PLC.

(e) *Supportive conditions (both physical and human).* Researchers generally appear to agree that a supportive environment is essential to PLCs (Webb et al., 2009). Physical conditions relate to when, where, and how PLC members meet as a team for learning, decision-making, problem solving, and creative work (Hord, 1997). Human conditions relate to the ability of each member to 'have a voice,' be spoken to, instead of being spoken at, and feel that their opinion and contribution to the collective work matter (Boone, 2010).

Alongside these five characteristics, a consistent focus on student learning and collaboration is also considered an important PLC characteristic (Cieslak, 2011; Newmann, 1996; Vescio et al., 2008). Additional aspects, such as coherence, sustainability, professional learning integrated in daily work, risk taking, and results assessment of professional development schemes, were also highlighted (DuFour & Eaker, 1998; DuFour, Eaker, & DuFour, 2005; DuFour

et al., 2006).

While the core characteristics presented above are interrelated and should be combined in order to create a PLC that can reach its full capacity, there is no single method that can be applied to all schools wishing to create such a community (Schechter, 2012). The term PLC has often become a meaningless label, as all collections of individuals with an interest in schools have taken to calling themselves PLCs (in practice as well as in research literature), without showing that a learning community actually exists as none or only a few of the core PLC characteristics are present (DuFour, 2004). This might be caused by the fact that cultural as well as structural changes have to be made to make significant changes in schools – the cultural changes being the hardest to realise (Wells & Feun, 2007). When the implementation of PLCs remains stuck at the structural level, without reaching the deeper level of human behaviour in schools (cultural level), little may change.

2.2. Communities of practice

2.2.1. Origins

The construct of CoPs is common both in the educational realm, as well as in varied business and healthcare organisations (Li et al., 2009; Wenger & Snyder, 2000). The CoP framework is based upon social or situated learning theory and was originally proposed by Lave & Wenger, 1991. It can be defined as *"a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis"* (Wenger, McDermott, & Snyder, 2002, p. 4).

2.2.2. Characteristics

Wenger (1998) suggests that an effective CoP is built on three main principles: mutual engagement, a joint enterprise, and a shared repertoire. Members of a CoP, who share their professional experiences, and are devoted to the process of professional development, constitute a mutual engagement foundation (Wenger, 1998; Wenger et al., 2002). Membership of a CoP can be seen as a matter of mutual engagement in practice, creating relationships that go deeper than similarities, in terms of personal features or social categories (Wenger, 1998). Joint enterprise is established by the members' commitment to a set goal within their professional development process. The enterprise of a community results from a collective process of negotiation and renegotiation (Wenger, 1998). Shared repertoire, in the context of teachers, refers to the members sharing teaching knowledge, techniques (both successful techniques and ones which require change and improvement), and various ideas and materials important to the professional development goals (Akerson, Cullen, & Hanson, 2009). This shared repertoire is produced and adapted during the course of the community's existence (Wenger, 1998). Applied to the context of teachers, Brouwer, Brekelmans, Nieuwenhuis, and Simons (2012) build on the CoP framework and define a community as *"a group of teachers who are socially interdependent, who participate together in discussion and decision making, and share and build knowledge with a group identity* [i.e., mutual engagement, holding members together in a social entity], *shared domain goals* [i.e., joint enterprise] *and interactional repertoire* [i.e., shared repertoire]*"* (p. 320) (addition by the authors between brackets).

Another important feature of CoPs is their natural development and flexibility. According to Wenger et al. (2002), CoPs can be seen as organic, they do not need to be created but are guided through their development. They argued that CoPs organically change their path because new members joining the community allow for growth, enabling the CoP to change its focus. Moreover, the development of a CoP should be based on the teachers' common goals and objectives, and all members should be welcomed to

participate in and contribute to the creation of the CoP's agenda (Akerson et al., 2009; Leite, 2006; Shen, Zhen, & Poppink, 2007). Moreover, the learning experiences incorporated in CoPs need to be flexible, and open to personalisation, in order for the learner to be able to apply their learning in a wide context (Wenger, 1998). In CoPs, the expertise of practitioners develops through engagement with community members facing similar situations. Hence, effective CoPs build on the collective experiences of their participants (Wenger et al., 2002). For a CoP to have an impact on teachers, it has to be directed at teachers' experiences, instructional practice as well as teachers' evaluation, and it should offer varied learning options for teachers to choose from so that ownership is fostered (Supovitz & Christman, 2005).

2.3. Learning communities under investigation

PLCs and CoPs originate from different conceptual starting points: PLC developed from learning organisation theory and the CoP framework has its place in social or situated learning theory. While there are some theoretical differences between PLCs and CoPs (e.g., the more prominent role of external leadership in PLCs), they also show a lot of similarities and even within each framework differences are found in the definitions and applications of the constructs. PLCs and CoPs usually have the same aims, strategies, and concepts with respect to professional learning. Hence, both terms are often used interchangeably. In practice both frameworks show many similarities as well, and it is not always possible to clearly delineate one from the other. As such, CoPs' participants learn together by focusing on problems directly related to their profession, often by sharing stories about their daily practice. Similarly, PLCs' intent is to promote teachers' professional development in non-traditional ways, address social, professional, and personal needs of their members, and focus on collaboration. As PLCs and CoPs frequently use the same strategies in order to achieve similar goals in practice, there is a lot of conceptual confusion in the field, leaving the boundaries between both frameworks blurred.

3. Present study

The goal of the current review is to study TCs that focus on teachers' professional development. The aspiration is to provide an overview of TCs' practice, focusing on key elements of communities: development, structure, initiators, the nature of activities, agenda, goals, group interactions, and necessary conditions for success. These are identified as elements whereby TCs can be distinguished from other models and schemes for professional development, and are central to the understanding of TCs (e.g., Brouwer et al., 2012; Graham, 2007; Hindin, Morocco, Mott, & Aguilar, 2007). The authors of the primary articles had to use the term community in order for the study to be included in the analysis, but different specific labels (PLC, CoP, learning community, teacher community, or other) could be used because differences between these tend to be blurred. Therefore, TC will be used throughout this review as an umbrella term for all of the labels referring to various communities of teachers.

The research questions of this study are:

(1) What types of TCs exist, and in which forms are they created and maintained?
(2) What are the different roles of stakeholders in the course of a TC?
(3) Under what circumstances does a TC accomplish its goals?

4. Method

4.1. Literature search

A large diversity of TCs is investigated in which professional learning may occur as a side effect, yet only in a part of the studies on TCs professional development is part of the core focus. Because the main focus of this review includes teacher learning and professional development, the literature search consists of two phases to ensure all relevant literature on professional learning/development in communities was included. In the first phase, the focus is on teacher professional learning/development, using the following search terms: "Informal learning," "Incidental learning," "Implicit learning," "Everyday learning," "Workplace learning," and "Professional learning," combined with the search term "Teacher" or "Teaching staff". In the second phase, the focus was on selecting the studies on teacher communities included in the selection from the first phase.

Several online databases were consulted for this literature review: ERIC, Francis, PsycInfo, PsycArticles, and Social Science Citation Index (SSCI). The initial number of studies retrieved in the first phase was 12,847. The search was limited to articles published after 1990; the number of selected articles then decreased to 12,246. Table 1 presents a summary of the number of studies obtained for each search term from each database. In the second phase, extracting the studies focusing on TCs, a search was done within the retrieved articles for studies that include the words community or communities in the title, subject terms or abstract. The remaining number of articles was 10,203. Subsequently, double records were electronically eliminated using the EndNote software, leaving 8052 articles.

4.2. Inclusion criteria and study selection process

To be included, the studies had to be empirical articles collecting primary data, as we are interested in (a) TCs in practice (b), focused on professional learning or development (c) of teachers (d) in primary and secondary education (e), whose main task is teaching. Communities of college and higher education teachers, or student teachers, were not included.

In the first step, articles were manually selected based on their title. One of the reasons for exclusion here included manual elimination of double records of studies, and reasons related to the content of the articles learnt from their titles, indicating that the study did not meet the criteria for inclusion. After this step, 489 selected studies remained. In addition to the reasons mentioned above, articles were excluded if, based on the abstract, an article focused solely on school reforms and improvement; improving students' achievements; teachers' professional development (outside of TCs); or school as a local social community. There were 82 articles left after this selection. The following step included the retrieval of the studies' full text. Most of the articles ($N = 73$) were found through the subscriptions of the authors' institution. For the articles that could not be retrieved, the corresponding authors of the studies were contacted. However, none of the missing studies were provided. Following full reading of the selected articles, additional studies not meeting the inclusion criteria were eliminated, resulting in 36 remaining articles. Finally, four articles were added following a review of references in search for additional appropriate studies. In the end, 40 studies were selected.

The majority (68%) of the selected articles use qualitative methods ($n = 27$), where data are collected through observations of TC sessions, semi-structured interviews, and questionnaires. Eleven studies use mixed methods (28%), but give prominence to the results of the qualitative part. There, data are collected through

Table 1
Results literature search: Number of studies obtained per search term and database.

Search terms	ERIC	Francis	PsycINFO (Until 2012)	PsycArticles[1] (2012-1014)	SSCI
Teacher & Informal learning	469	66	327	0	259
+ year limit	362	66	326	0	259
Teaching staff & Informal learning	5	21	3	0	17
+ year limit	4	21	3	0	17
Teacher & Incidental learning	110	17	237	0	27
+ year limit	60	15	201	0	27
Teaching staff & Incidental learning	4	2	0		1
+ year limit	3	1	0		1
Teacher & Implicit learning	61	38	264	59	129
+ year limit	47	36	264	59	129
Teaching staff & Implicit learning	0	3	0	0	5
+ year limit	0	3	0	0	5
Teacher & Everyday learning	191	48	41	2	215
+ year limit	157	48	40	2	215
Teaching staff & Everyday learning	1	6	0	0	15
+ year limit	1	6	0	0	15
Teacher & Workplace learning	397	36	406	0	171
+ year limit	375	36	406	0	171
Teaching staff & Workplace learning	4	15	3	0	17
+ year limit	4	15	3	0	17
Teacher & Professional learning	3744	879	1529	67	2452
+ year limit	3448	860	1526	67	2446
Teaching staff & Professional learning	36	179	14	0	202
+ year limit	32	179	14	0	202
Total	**5022**	**1310**	**2824**	**128**	**3510**
Total 1990 – November 2014	*4493*	*1286*	*2783*	*128*	*3504*
Overall Total					**12794**
Overall Total 1990 –November 2014					*12194*

[1] *Note.* PsycInfo was no longer available from June 2012; hence PsycArticles was used instead for the time period June 2012 – November 2014.

surveys for the quantitative portion, and observations, semi-structured interviews, and questionnaires for the qualitative portion. Two studies use quantitative methods (5%), where a survey is used to collect data. The selected articles originate from 15 different countries worldwide. However, the majority of the selected articles originate from the USA ($n = 21$, 52.5%).

4.3. Literature analysis

A narrative method was used to analyse the selected studies, enabling the authors to make sense of the literature and look for patterns in the results by carefully reading and interpreting the studies (De Rijdt, Stes, van der Vleuten, & Dochy, 2013). The different steps taken in the process of analysing and synthesising the literature are elaborated upon below.

In a first step, developing a preliminary synthesis, all articles were read and the main relevant study characteristics were inventoried in a large synthesis table (see Appendix). This table includes the following characteristics: authors, year of publication, country, research method, participants, facilitator(s) of the TCs

under investigation, frequency of TC meetings, format of the TCs, and the term that was used to describe the TCs. Next, each of the articles was thoroughly reread in order to identify significant sections. Paragraphs containing important information to answer the postulated research questions were coded based upon the content analyses method. The following themes were used: TC type (Research question 1), stakeholders (Research question 2), and conditions for success (Research question 3). Finally, the content of these paragraphs was analysed in order to retrieve and synthesise information on TC types, the roles of stakeholders, and conditions for TCs' success. This information was analysed based upon qualitative content analyses.

The answer to the first research question aimed to develop a typology of types of TCs was based upon the synthesis table (using the following information: the facilitator of the TC and the format used) and additional characteristics of the TCs as described in the articles. Main features of each TC under study were listed for each article; these were compared looking for key differences between these different TCs. Next, clusters were made based upon the initiator of the TC, the nature and course of the TC. In a final step,

these different types of TCs were defined based upon the information retrieved from the coded paragraphs.

The results for the second research question were derived from the coded paragraphs, focusing on the role of the different stakeholders in TCs. To answer the third research question, looking at which conditions contribute to successful TCs, the coded paragraphs were assessed in order to identify key conditions for TCs to reach their goals. In a next step, all these conditions were sorted and clusters were identified covering main themes in these conditions. These three clusters include: leadership, dynamics and group composition, and trust and respect.

5. Results

Before addressing the research questions, a general observation is that every study views TCs as highly valuable settings for teachers' on-going professional development (e.g., Graham, 2007; Hindin et al., 2007; Mehli & Bungum, 2013; Wong, 2010a; Wynn, Wilson Carboni, & Patall, 2007). TCs are considered an effective tool for making true changes in teaching practice, starting from the teachers themselves (D'Ardenne et al., 2013; Jones, Gardner, Robertson, & Robert, 2013; Long, 2009). However, TCs exist in many different forms and operate under many different conditions.

5.1. Types of teacher communities

The first research question concerns types of TCs. The aim here includes creating an overview of the types of TCs, as they appear to have different characteristics and thus function differently with regard to professional learning and development, producing different outcomes. There are several possible ways to differentiate between different types of TCs: focusing on the teachers' subject matter proficiency, association with the school, TC sizes, and other elements (Boone, 2010; Jones et al., 2013; Westheimer, 2008). However, based on the analysis of the selected studies, the following division seemed most appropriate: (a) formal, (b) member-oriented TCs with pre-set agenda, and (c) formative TCs. While most of the selected studies match with one of these conceptions, some studies do not provide enough information to clearly categorise them ($n = 12$).

5.1.1. Formal teacher communities

The core characteristic of formal TCs ($n = 9$) includes that they originate from government initiatives, mostly aimed at the implementation of educational standards at a national level (Elster, 2009; Lakshmanan, Heath, Perlmutter, & Elder, 2011; Mehli & Bungum, 2013; Sargent & Hannum, 2009; Wong, 2010a, b). These TCs have regular meetings and often include, besides teachers, outside experts aimed to transfer knowledge to the teachers. For example, in the study of Elster (2009), the German Federal Ministry of Education established and funded TCs for the purpose of implementing criteria in biology education set by the National Educational standards. Communities of teachers and science education researchers met regularly to develop tasks and units for students. The officially trained educators taught the new criteria and instructed the teachers regarding their teaching practice. Similarly, in the study of Lakshmanan et al. (2011) TCs were implemented as part of standards based development. For that aim, these formal teacher communities have pre-set goals directed towards achieving the targets set by the educational standards by the time the TC stops its activity. Moreover, these TCs are regularly controlled and assessed by their governmental initiators. However, even within this group of formal TCs, differences exist and some formal TCs seem to be more in line with the community construct than others that resemble standard forms of professional development workshops.

First of all, participation in formal TCs can be compulsory (Elster, 2009; Sargent & Hannum, 2009) or voluntary (Mehli & Bungum, 2013; Wong, 2010a, b). Furthermore, members of TCs can be teachers from one or more schools, and the TC facilitators can be subject matter experts (e.g., Mehli & Bungum, 2013; Wong, 2010b) or leading educators (Elster, 2009; Wong, 2010b), in all cases from outside the schools. Moreover, formal TCs are found to differ with respect to the length of time the TC was organised and the place of meetings. According to the theoretical background, TCs are meant to keep on "living" in order to serve teachers' on-going practical needs (Boone, 2010; Lumpe, 2007; Westheimer, 2008). In practice, however, only a few out of the studies report actual continuity over time of these formal TCs (Chou, 2011; Gallagher, Griffin, Parker, Kitchen, & Figg, 2011; Graham, 2007; Rahman, 2011; Sargent & Hannum, 2009), while others do not discuss the duration of the TC under investigation. One study explicitly refers to a short-term TC (Mehli & Bungum, 2013). Most formal TCs are initially planned for a limited period of time.

5.1.2. Member-oriented teacher communities with pre-set agenda

The majority ($n = 16$) of the selected studies examine TCs that are initiated by the school principal, teachers, or authors of the studies. In some cases, the author is also a TC member (e.g., Akerson et al., 2009; Hindin et al., 2007; Pella, 2011). This type of TC is characterised by pre-set schedules, session formats, and objectives set before the start of the sessions (e.g., Akerson et al., 2009; Hindin et al., 2007; Owen, 2014; Shank, 2006). The most common objectives of these TCs are:

(a) To share ideas and perspectives about teaching (e.g., Nishino, 2012; Owen, 2014; Parker, Patton, & Tannehill, 2012; Pella, 2011; Shank, 2006; Wynn et al., 2007);
(b) To increase teachers' knowledge of available information resources (D'Ardenne et al., 2013; Jones et al., 2013; Parker et al., 2012);
(c) To discuss practical teaching challenges (D'Ardenne et al., 2013; Graham, 2007);
(d) To exchange teaching strategies, affirm good practices, and improve unsuccessful ones (e.g., Akerson et al., 2009; Boone, 2010; Graham, 2007; Owen, 2014; Thessin, 2010);
(e) To fill in gaps and deepen teachers' subject matter knowledge (e.g., Akerson et al., 2009; Jones et al., 2013; Rahman, 2011);
(f) To plan lessons for subject matter teaching and implementation of new teaching methods or reforms (e.g., Aubusson, Steele, Dinham, & Brady, 2007; Boone, 2010; Graham, 2007; Hindin et al., 2007; Pella, 2011);
(g) To perform research and share knowledge about new academic research (D'Ardenne et al., 2013; Owen, 2014; Parker et al., 2012); and
(h) To receive feedback on teaching practice through class observation (e.g., Aubusson et al., 2007; Owen, 2014; Thessin, 2010; Wynn et al., 2007).

As opposed to the formal TCs, this type aims at creating a teachers' community that will continue to exist. Their goals are continuous rather than short-term, and include enhancing teachers' professional development and offering a solution for their isolation, while using the teachers' practical teaching experience as the main resource. The latter is reported to be of significant importance for the success of a TC as it provides a focus on the participants' needs. Similar to formal TCs, in a few cases, the principal mandated the teachers to participate in the TC (e.g., Long, 2009; Nishino, 2012; Parker et al., 2012). However, in most cases participation is voluntary (e.g., Aubusson et al., 2007; D'Ardenne

et al., 2007). In the majority of studies discussing this type of TC (*n* = 10), the communities include members from different schools.

5.1.3. Formative communities

In the final type of TC, the goals and agenda are set throughout their operation (*n* = 8) (Lumpe, 2007; Westheimer, 2008). This clearly distinguishes this type of TC from the formations discussed above. In these TCs, there are no predefined goals and there is no pre-made agenda prior to the first meeting. Moreover, their way of working is established naturally from one session to the other and after a period of time (Attard, 2012; Chou, 2011; Gallagher et al., 2011; Keung, 2009; Vause, 2009). These TCs continue existing, as educators themselves are interested in attending the TC due to their need for support, to share and discuss issues of concern and importance at the time, and to improve their teaching practice (e.g., Chou, 2011; Gallagher et al., 2011; Keung, 2009). Participation in these TCs is voluntary in all cases and members perceived this as crucial for the success of TCs (Gallagher et al., 2011). Furthermore, in the studies under review, the session facilitator role is taken up by different participants rotating among them, or by the researcher. For example, in the TC described by Gallagher et al. (2011), each meeting begins with the facilitator, a role rotating between the five members, identifying topics of concern that emerged from the member teachers. Discussion begins with the facilitator's experiences and is extended to current and future practice consideration (Gallagher et al., 2011). Another example of this form of TC is described by Attard (2012). In this TC, the participants wrote their reflections on teaching, with the aim of engaging the participants in a conversation about issues they considered important at that specific time.

5.2. Stakeholder roles and impact

Government officials, policy makers, educational ministries, superintendents, school principals, and teachers are all stakeholders in TCs. Hence, the community construct may carry different interpretations, and can be part of different, potentially conflicting, agendas (Webb et al., 2009). For example, principals often have specific views on how their school should work (Owen, 2014). Meanwhile, the government's interests in implementing certain content or teaching techniques through TCs might derive from political agenda or national viewpoints that could interfere with those of the principals (Schechter, 2010). Following their own interests, teachers' might have their own, distinct, objectives for TCs that focus on their own vision of teaching, and practical needs, which could differ substantially from those of other stakeholders (Attard, 2012). The second research question examines their roles and their impact on TCs' functioning.

5.2.1. From top-down to bottom-up TCs

Based upon the roles and impacts these stakeholders have, a continuum can be described ranging from *top-down* (the government is the main stakeholder) to *bottom-up* (initiated by teachers themselves) communities. In the top-down end of the continuum, the main stakeholders include government officials; teachers are mostly reduced to executors of top-down prescribed ideals. This can be found in a common implementation of TCs initiated by a governmental education agency focusing on the realisation of national attainment targets or standards (see formal TCs). They show extensive top-down governmental influence, are restricted to a specific time frame, and follow a strict agenda (e.g., Elster, 2009; Mehli & Bungum, 2013). In these cases, school principals have little or nothing to do with the TC, as the funding and organisation are done by external factors. In contrast, in the bottom-up end of the continuum teachers are the main stakeholders. In these types of

TCs, the focus is more on teachers' empowerment and learning, as these TCs originate from schools' and teachers' own concerns (see, for example, member-oriented TCs and formative TCs). Various different forms of TCs may exist in between these ends, showing varying degrees of top-down implementation and influence.

Looking at the results of these different forms of TCs, the outcomes of top-down implemented TCs are reported as very positive, as shown in reports on teachers' satisfaction and argued by the initiators labelling the journey as a success in terms of accomplishing the set goals (Mehli & Bungum, 2013; Elster, 2009; Mehli & Bungum, 2013; Wong, 2010b). Though at first sight positive outcomes are reported in the top-down end, the main aim of a TC is not realised as no actual communities develop through these processes and participants went their different ways once these projects ended. As argued by Webb et al. (2009), national policies and school level constraints may hamper the realisation of powerful, and empowering, forms of communities.

Nevertheless, some top-down influence appears to be beneficial: Officials' support of TCs in the form of help with TC facilitation and establishment, funding, and providing professional support and guidance is stated to be vital across the reviewed studies (e.g., Boone, 2010; Chou, 2011; D'Ardenne et al., 2013; Hindin et al., 2007; Jones et al., 2013). In most cases that report on the importance of official's support, governments offered support *from the side* and did not initiate these TCs as this occurred bottom-up. In relation to the continuum ranging from top-down to bottom-up TCs, these TCs can be situated somewhere in between. Although the government is not an active member in these TC's on-going decision-making processes, in some cases, the governmental support and respect are perceived crucial to the accomplishments of the TC's goals. These in-between TCs are reported as efficient and successful, being driven by the members' collective desire to learn from each other's varied expertise (D'Ardenne et al., 2013; Gallagher et al., 2011). Hence, in TCs initiated at the school and teacher levels (bottom-up), some top-down influence appears to be beneficial. The teaching staff perceives the support and attitude of both the school leaders and governmental agencies essential to the TC's productivity (e.g., Akerson et al., 2009; Ikhwan, 2011; Schechter, 2012; Wong, 2010a).

5.2.2. Communication and goal alignment

The existence of different stakeholders from different contexts complicates communication and alignment of goals. As such, principals and teachers express disappointment with the lack of understanding and communication between the ministry of education and the schools' practical needs (Schechter, 2012). Dictation and close control by the ministry of education, and positions of superintendents representing the ministry, is indicated as inhibiting TCs' growth and functioning (Jones et al., 2013; Nelson, 2009; Owen, 2014; Schechter, 2010, 2012). In order to be successful, the influence of policy makers needs to be perceived as support – enabling the TC's activity and foster participants' initiative – rather than control (Jones et al., 2013; Nelson, 2009; Schechter, 2010). However, the interplay of various stakeholders is often perceived to hamper TCs' functioning. As such, exposure to criticism from superintendents, teachers, parents, and students on the one hand, and directives from the ministry of education on the other hand, are considered additional obstacles preventing schools' leaders from supporting TCs (Nelson, 2009; Owen, 2014; Schechter, 2012). Yet, at the same time, superintendents and policy makers appreciate the importance of TCs, and regret the shortage of them (Aubusson et al., 2007; Elster, 2009; Mehli & Bungum, 2013; Schechter, 2012).

Next to the interaction between the government and schools, a balance needs to be found between different stakeholders within schools, such as principals and teachers. As such, the school

principal often has a pre-set agenda for the school, which requires the staff's compliance. When the staff's vision and preferred practice differ from those of the principal, the latter might perceive an atmosphere of openness and formation of a constructive dialogue among staff members as harmful to the realisation of his/her agenda (Akerson et al., 2009; Owen, 2014; Schechter, 2012). However, it is important that principals understand the possible benefits and challenges that arise from facilitating a culture of plurality of opinions, and cultivate collaborative learning without jeopardising their teachers' authority (Schechter, 2012; Thessin, 2010). In contrast, when principals' voices in TCs' agenda and functioning become dominant, and they impose their own views and are not open to include staff members' aspirations and concerns, teachers will not contribute to, or believe in, the collective learning realised through the TC (Schechter, 2002, 2010). Moreover, when comparing teachers' and administrators' perspectives, the latter perceived the highest levels of maturity of their schools as communities (Gerhard, 2010), showing how the perception of the TC members themselves may differ from that of the school principals and administrators.

5.3. Conditions for communities' successful outcomes

The central idea behind a TC is the development of an effective way to increase teachers' professional development (Barth, 1990; Hord, 1997; McLaughlin, 1993). Moreover, as part of professional development activities, teacher involvement in TCs appears to be related to a significant growth in individual, as well as collective, teacher efficacy and student achievement (Cieslak, 2011; Hardin, 2010; Lakshmanan et al., 2011). However, merely enforcing or implementing a TC does not suffice for its success and creating a TC that realises its theoretically aspired characteristics and goals is challenging (Wells & Feun, 2007).

As empirical research measuring the effectiveness of TCs, with regard to increased teachers' professional development, is lacking, it is beyond this study's aspiration to provide an overview of the effectiveness of TCs in this area. Hence, the aim of the third research question is to map the conditions under which a TC is likely to carry out its goals. Drawing on the selected articles, several conditions were identified and grouped: (a) leadership, (b) group composition and dynamics, and (c) trust and respect.

5.3.1. Leadership

Leadership, on two different levels, appears to have a significant effect on TCs: the TC facilitator, or the individual who directs and manages its operation, and the school leader. Community leadership is proposed to be a key element in TCs and has different functions: realising a safe and challenging environment in which collective inquiry can take place, ensuring that appropriate learning resources are present to engage in collective inquiry, and creating an experienced need for change among teachers so they see reason to participate (Brodie, 2014; Parker et al., 2012; Sutor, 2011; Wong, 2010a, b). To successfully support the TC's functioning, it is important that the facilitator possesses the personal and professional abilities to guide the participants, while allowing teachers' voices into the discussion and enabling them to own the results and decisions they attain (Parker et al., 2012). The facilitator's task can be challenging, as they often need to cope with various situations of serious and problematic teacher interactions, and group dynamics that are complex human relations issues (Jones et al., 2013).

Besides community level leadership, the school leader seems to be crucial; many participants attributed the TC's success to the school principal's strong leadership, support, and motivation to create and maintain the TC (e.g., Graham, 2007; Nelson, 2009; Owen, 2014; Schechter, 2012; Snow-Gerono, 2005; Thessin,

2010). For example, Kiburz (2011) and Webb et al. (2009) show that supportive school cultures and strongly internalised community characteristics are realised by strong principal leadership. Webb et al. (2009) found that teachers reporting a supportive school culture attributed this in large part to the personality, values, and actions of the principal. These principals described themselves as *people-centred*; they were interested in the wellbeing, development, and overall job satisfaction of the teachers and modelled their commitment to the school. Several actions of the principal were identified as having a significant contribution to the TC: initiating it, hiring necessary personnel, providing financial support, having clear expectations from the TC's operation, but also involving the teachers in its design and implementation, delegating responsibilities to the teachers, providing teachers with sufficient time to work in TCs, or compensating them for extra time spent in TCs, and acknowledging the professional achievements reached by the TC (Boone, 2010; Graham, 2007; Ikhwan, 2011; Owen, 2014; Schechter, 2012; Sutor, 2011).

Finally, and related to the discussion on stakeholders, equal status of members in TCs, including teachers, as well as administrator members or facilitators who act as representatives of the school's principal, is influential (Ikhwan, 2011; Owen, 2014). The principal is accountable for the power balance with the administrator members, and the teachers considered such TCs to be settings where exploration was encouraged and valued (Ikhwan, 2011; Nelson, 2009; Parker et al., 2012). Moreover, when principals listen to the staff, include them in the decision making process, and are on their side through practical actions, teachers' sense of responsibility and their motivation to succeed and share knowledge increases (Long, 2009; Owen, 2014; Parker et al., 2012; Schechter, 2012). Thus, moving away from an asymmetric relationship between school leadership and teaching staff, fostering a shared vision between both, is crucial for a successful community (Cieslak, 2011).

5.3.2. Dynamics and group composition

Besides the role of leadership, the interpersonal dynamics within TCs profoundly influence their functioning, as interpersonal relationships and emotions are central to a TC's atmosphere and stability (Webb et al., 2009). The majority of the studies ($n = 23$) specify the interactions among teachers, and teachers' interactions with facilitators as the most influential factors for the TC's successful outcomes, in terms of changing participants' views and teaching practice, as well as their continued work as a TC (e.g., Akerson et al., 2009; Aubusson et al., 2007; Graham, 2007). Collaboration and cooperative spirit, existing among TC members, set the basis for effective work within the community (e.g., Ikhwan, 2011; Jones et al., 2013; Kiburz, 2011; Thessin, 2010). However, cooperative interactions and collegiality need to be part of a climate of openness among the teachers, as well as a willingness to open up their practice to reach the stage of a mature community (Aubusson et al., 2007; Sutor, 2011). This openness is fostered by an atmosphere of emotional support which is found to encourage teachers' self-confidence in the form of collective teacher efficacy and to stimulate teachers to be open and to share beyond a superficial level (e.g., Gallagher et al., 2011; Nelson, 2009; Parker et al., 2012). Teachers themselves also emphasise the value of sharing concerns emanating from their teaching situation (Griffith, 2009). Moreover, sharing personal practice, collaborative learning experiences, and ultimately having shared values and vision — the core aspects of a TC — again appear to be related to collective teacher efficacy (Hardin, 2010). However, this deep level collaboration, going beyond sharing ideas, concepts, and particular lessons, but also discussing preferred outcomes and student results, appears to be challenging (Wells & Feun, 2007). Members are concerned about the TC group decisions taking away their autonomy and freedom to

decide for themselves, and plan their lessons individually (Jones et al., 2013). Moreover, when peer observation takes place in the context of teaching assessment, tensions are created among participants that negatively impact TC functioning (Akerson et al., 2009; Vause, 2009).

Troubled group dynamics, such as problematic interpersonal relationships and communication styles, can strongly hamper a TC's functioning (Jones et al., 2013; Attard, 2012). Moreover, conflicts are common in communities. When encountered with conflicting views or arguments, teachers are required to reflect on the varied ideas causing disagreements, dialogue, and uncertainty to become fundamental to the TC's functioning (Attard, 2012; Jones et al., 2013; Snow-Gerono, 2005). Hence participants are required to develop new coping skills and attitudes (Graham, 2007). Trying to avoid confrontation, and being reluctant to disagree with powerful participants, could lead to inappropriate or ineffective teaching practices becoming dominant (Vause, 2009; Wong, 2010a, b). Conflict should not be solely perceived as negative, as it is not always necessary to reach consensus and dissensus is argued to stretch people's ideas, provide learning opportunities, and enhance collaboration (Attard, 2012; Snow-Gerono, 2005; Vause; 2009). It is the combination of safety, providing the openness to admit weaknesses in one's practice and knowledge, and challenge, pushing one to leave one's comfort zone, which creates learning opportunities (Brodie, 2014).

The composition of teacher groups appears to influence TCs' effectiveness and dynamics (Parker et al., 2012). As such, communities consisting of members with conflicting personalities and negative internal dynamics may lack of focus and have unproductive sessions (Thessin, 2010). Moreover, heterogeneity in professional areas also seems to hamper effective TC functioning; variety in teachers' subject matter expertise, tenure status, degrees held, and fundamentally different beliefs about teaching are found to be related to teachers' confidence (Aubusson et al., 2007; Hindin et al., 2007). They increase teachers' concerns about showing and sharing their vulnerability in discussions, and exposing themselves in classroom observations. Other studies report that differences in years of experience caused frustration among the participants, as the TC is perceived most useful for new teachers who lack confidence in teaching or have few teaching resources, while veteran teachers feel they gain less from it (e.g., Graham, 2007; Jones et al., 2013). However, this does not appear to apply in all situations, as the study of Nelson (2009) shows that all members make significant changes to their practices and implement new practices. These contradicting results affirm the statement of Jones et al. (2013), who argue that teachers vary in how their professional growth benefits from a TC, based on personal and circumstantial reasons. Demographic variables such as age, gender, position in the school, and the level teachers spent most of their work time influence teachers' perceptions of the TCs of which they are a part (Gerhard, 2010).

5.3.3. Trust and respect

Cultural aspects are essential to the realisation of TCs, and an institutionalised community culture fosters teachers' participation in communities (Gerhard, 2010). Crucial factors in such a culture include trust and respect among participants, these are also central factors underlying the above-described group dynamics. They encourage members to open up to each other and cultivate a culture in which participants feel safe to take risks. In such a culture, members share experiences they perceive as weaknesses without fear of being judged by other members; they appreciate alternative opinions and individual differences, accept uncertainty, conflict and inability to reach agreement, and realise that each participant is an individual, free to think and decide as he or she sees fit (Attard,

2012; Clokey-Till, Cryns, & Johnston, 2001; Gallagher et al., 2011; Nelson, 2009; Vause, 2009; Webb et al., 2009). Moreover, interpersonal trust appears to be an important factor in acquiring new ideas, as members are not afraid to try something new because they are not worried about their peers' reaction (Parker et al., 2012). They feel comfortable when asking questions and conveying lack of subject matter knowledge, as well as uncertainties about classroom teaching practices (Parker et al., 2012). In turn, this leads to the participants' personal growth and the TC being successful as a whole (Clokey-Till et al., 2001; Gallagher et al., 2011; Vause, 2009). Hence, a positive atmosphere among the staff promotes communities; when an appropriate culture is lacking, teachers frequently feel uncomfortable about professional development and treat it as a personal criticism of their work (Akerson et al., 2009; Aubusson et al., 2007; Boone, 2010; Schechter, 2012).

However, it takes time, commitment, and patience to establish a culture of trust and the latter is vulnerable as it can quickly dissipate when key staff leave (Webb et al., 2009). In studies where teachers knew each other beforehand, or cooperated in other settings or projects, trust and respect were already established in the early stages of the TC (e.g., Attard, 2012). Furthermore, not only respect within the TC is important, positive reinforcements and recognition of teachers' effort to improve their teaching practice when attending TCs is also important in order to create successful TCs that are able to generate positive change (Sutor, 2011).

6. Discussion

6.1. Addressing the conceptual confusion

In the TC field, studies apply a range of denominations aiming to explain the same activity, or use the same concepts to explain different types of teachers' professional development activities (Brouwer, Brekelmans, Nieuwenhuis, & Simons, 2011; Westheimer, 2008). Several of the selected studies used both PLC and CoP to describe the communities they investigated (Aubusson et al., 2007; Chou, 2011; Vause, 2009). It is apparent that even if, by definition, PLC and CoP are composed of different elements, in practice, it is difficult to separate them. Repeatedly, the characteristics of the formats outlined in the primary studies could fit either the PLC or CoP model, or both. However, the authors of these studies used them interchangeably or chose one while ignoring the other, and did not address the confusion. The majority of the studies used the term PLC exclusively ($n = 22$), while a minority used the term CoP solely ($n = 3$). In other studies ($n = 15$), one or more of the following terms were used to refer to similar activities: PLC, CoP, learning communities, teacher community, scientific community, professional community, collaborative professional community, and educator inquiry group. Hence, while theoretically different community constructs can be distinguished, the practical value of the distinction may be more limited. Moreover, while studies propose a specific framework, it often remains unclear the extent to which the empirically investigated TCs correspond to the criteria of the theoretical frameworks. The extent to which TCs in practice meet the theoretically proposed community criteria is sometimes described as their degree of *maturity* as a community (e.g., Cieslak, 2011; Gerhard, 2010; Griffith, 2009).

This proliferation of terminology, often lacking a clear definition or theoretical framework, makes it unclear whether the results of different studies can be compared straightforwardly or whether different things are being investigated. Hence, an important issue for future research includes the use of a clarified and simplified terminological framework and providing clear descriptions of the TCs under investigation.

6.2. Interpretations and use of the community concept

Besides the terminological and conceptual confusion, the community construct shows different relationships with other constructs. As such, the relationship between communities and professional development can be interpreted in two different ways. On the one hand, a community can be conceptualised as a valuable context for teacher learning and development (e.g., Attard, 2012; Chou, 2011; Elster, 2009; Gallagher et al., 2011; Ikhwan, 2011; Kiburz, 2011; Mehli & Bungum, 2013; Snow-Gerono, 2005). Thus, professional development opportunities result from the context of a community. On the other hand, teacher professional development may function as a tool for developing a community of learners (e.g., Akerson et al., 2009; Keung, 2009). Thus, professional development is perceived as a tool for establishing a successful community. While the first perspective appears to be most common, both are valuable perspectives and are not mutually exclusive. It may be most effective when both processes are reciprocal: Communities functioning as a meaningful context for professional development in interaction with colleagues, and the latter reinforcing and (re) building the community characteristics.

Secondly, a distinction can be made between a TC that is implemented as a goal in itself and TCs that are used as tools to reach other goals. When looking at the different types of TCs described in this review, it appears that the formal TCs, with strong governmental involvement, most closely match TCs as tools to reach other outcomes. This may help explain why in these cases, for the most part, no actual communities were developed but teachers split up at the end, as the focus was on the use of a TC to reach certain goals, not on establishing a well-functioning TC. The category of *formative* TCs most closely matches the use of TCs as a goal in themselves. They do not start from predefined goals, but focus on the organic development and functioning of TCs, making the TC in itself important and not just a means to realise certain goals.

Finally, the term community sometimes seems to be used in reference to a culture of learning and working together, rather than pointing at a fixed and delineated group of teachers that collaborates. While in this review the latter conception was dominant, the concept teacher community does not always refer to an entity, but sometimes serves as a metaphor for a collaborative school culture, characterised by community features (e.g., Cieslak, 2011; Hardin, 2010; Leonard & Leonard, 2001; Leonard, 2002; Wells & Feun, 2007).

6.3. From top-down to bottom-up communities

TCs situated at different points of the continuum from top-down to bottom-up implementation appear to provide different opportunities for teacher professional development and (formal or informal) learning. Top-down TCs seem to be related to the format of traditional professional development programs in which development is somehow *imposed* on teachers. These programs are mostly led by a facilitator and aim to *teach* something to the (un-) voluntary participating teachers, transferring knowledge. This is in line with formal (top-down) TCs that are initiated by the government and in which a facilitator (an officially trained educator) aims to teach certain knowledge to the teachers. These communities are often organised as short-term initiatives (which may or may not be aimed towards long-term sustainment), similar to the traditional professional development programs that communities are supposed to replace but adding the cooperative aspect. These TCs and the professional development taking place herein are more formal in nature and thus in line with the paradigm of formal learning. Moreover, these types of formal TCs (top-down, short term, instruction by an outside expert) appear to be less in line with the main idea of the community construct focused on the needs and experiences of TC members. In line with the statements made by Grossman, Wineburg, and Woolworth (2000) and DuFour (2004), groups of teachers are quickly called a community without showing that the community features are present in practice. Bottom-up TCs are more in line with the concept of (informal) teacher learning, initiated by the teachers themselves rather than being imposed on them. The questions reside from the TC members themselves; the learning is oriented towards their learning needs. This is in line with the formative communities described earlier.

6.4. Influence of (micro-)policy and culture

The results of the primary studies point out that a discrepancy between the educational offices' actions and the practical needs of schools and teachers frequently exists, which might inhibit TCs' development and their beneficial outcomes. Therefore, an important challenge, with regard to implementing TCs in practice, includes finding a balance between the different stakeholders, characterised by clear communication and alignment of goals and enough room for community members' own initiative and participation in decision-making.

These issues of governmental influence are especially salient in the context of the formal TCs, wherein the government's impact was fundamental. As suggested earlier, few of the formal TCs, which are reported in all cases as being very successful, resemble the (theoretical) core TC features, such as members' ability to address practice matters they deemed relevant. Their successful results could be partially explained by the members' choosing to take part in them, due to their intrinsic interest in the subject matter in the broad sense, like launching a rocket at a space site (Mehli & Bungum, 2013) or developing a network with outside researchers and higher education institutions (Wong, 2010a, b). However, even those TCs, in which participation was involuntary, reported favourable results. Although it does not provide a full explanation, cultural characteristics might have come into play here. In her studies, Wong (2010a, 2010b) referred to social and cultural roots being critical factors, impacting TCs' development and sustainability.

6.5. Limitations

The results of this review need to be perceived within its limitations. First, the inclusion criteria that guided the selection of studies for this review could influence the results. Although the inclusion criteria were described in detail and applied consistently, studies that could have contributed to the outcomes of this review might have been excluded due to this particular selection process.

Secondly, although the number of primary studies selected was not as high as expected ($n = 40$), the articles originated from around the world. However, there were not enough studies retrieved from each country or region in order to be able to draw conclusions regarding the impact of cultural elements and specific educational policies. In addition, none of the selected studies, except two from the same author (Wong, 2010a, b), addressed cultural aspects of the population that was studied. Data on the cultural characteristics could have had a valuable contribution to this review, as conclusions drawn with respect to TCs in one place could have been specific to that culture.

7. Conclusions

This review addresses three main issues with regard to TCs: (1) Different types of TCs; (2) The role and impact of different stakeholders; and (3) Conditions for successful TCs.

Based upon who initiates and/or facilitates the TCs, the goals, nature, and course of the TC, three types were distinguished: formal TCs, member-oriented TCs with a pre-set agenda, and formative TCs that are realised as they run. The type of TC that is most recommended or most efficient and effective depends on what the goals of developing TCs are. While top-down formal TCs are helpful in formal professional development or in-service training, bottom-up member-oriented TCs with a pre-set agenda and formative TCs are better equipped to create continuing communities of teachers focused on (informal) teacher learning. While in the first case the community is mostly a tool to realise an output, being educated teachers, in the latter case the focus is more on the development of a continuing learning community starting from teachers' own needs.

The different stakeholders involved in the initiation and course of TCs can be divided in two main categories: Those from *outside* the school (e.g., government officials, policy makers) and those from *inside* the school. The latter again comprise two categories: on the one hand superintendents, school principals, administrators (mostly not part of the TCs) and on the other hand the teachers themselves (members of the TCs). These different categories might induce tensions or communication issues on different levels caused by different interpretations and potentially conflicting agendas. Tensions may rise between the stakeholders from outside and those from inside or tensions may come up inside the school, between for example school principals and teachers. Hence, there is a need for an effective communication system in order to realise a shared vision and alignment of goals. The extent of influence these different stakeholders have can be described by a continuum ranging from top-down (government initiative) to bottom-up (teacher initiative). The results of the primary studies show that there should be a balance between top-down and bottom-up influences. While a fully top-down implemented TC may be effective in reaching its goals of knowledge transfer, it often does not realise the sustainment of a long-term community. However, some top-down influence and support in TCs rising from teacher and school initiatives proved beneficial for realising successful TCs.

Although many different factors influence the course and success of TCs in fostering teachers' professional development, three main categories were set forward: leadership, group composition and dynamics, and trust and respect. In line with the above described need for a balance between top-down and bottom-up influence, results showed that while strong leadership of the TC and school leader is essential, giving enough voice to the TC members (the teachers) themselves is equally crucial. Hence, a power balance characterised by equality appears to be essential in rendering successful learning communities and realising a sense of agency and responsibility for the teachers. Furthermore, while creating the appropriate structural conditions (e.g., time, financial support) is essential, this does not suffice to make TCs successful. The leader's role as a model in creating a supportive culture is essential as well. Besides leadership, the dynamics and group composition of the TC influence its functioning and results. An overall conclusion is the need for a climate of openness and teachers' willingness to open up their practice. Teachers' fear of losing their autonomy and freedom hampers deep-level collaboration beyond the level of sharing. Hence, a balance is needed between safety (creating openness) and challenge (making room for constructive discussions and deep-level collaboration) in order to create the most learning opportunities. To realise these dynamics, a culture of trust and respect is essential, this creates the possibility for teachers to open up and feel safe to take risks. Hence, the success of TCs in large part depends on cultural characteristics: creating a positive and open atmosphere makes it possible to try new things and creates valuable learning opportunities.

8. Future research

Following the analysis of the primary studies, recommendations for future research will focus on the data that was not available when conducting this review. First, there are only a small number of studies done in rural and disadvantaged areas. As TCs are a format for teachers' professional development that could be applied in any educational system at a relatively low cost, investigating TC experiences in such areas could provide rich data on effective TC strategies. Additionally, studying socio-cultural aspects together with the application of different TC formats, and their impact, could fill a gap in the current available empirical studies. Finally, mapping TCs according to the available terminology, and clarifying the concepts used in this topic, could help practice in matching certain strategies and formats to specific goals and populations. This could also move the academic research forward in reaching uniformity on the terminological baseline and providing more coherent understanding of communities in the educational field.

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.tate.2016.10.001.

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