# School Teacher Professional Development in Online Communities of Practice

*A Systematic Literature Review*

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# School Teacher Professional Development in Online Communities of Practice: A Systematic Literature Review

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**Abstract:** This study informs researchers of educational technology, teachers, teacher associations and moderators or admins of online platforms who are interested in knowledge sharing among teachers within online communities of practice (CoPs). The continuous professional development of teachers is primarily about improving their teaching practice. It includes both formal and informal learning activities to transform attitudes, behaviour, skills and knowledge. Formal knowledge sharing methods like training workshops have failed to deliver the desired on-demand, context-appropriate knowledge. On the other hand, informal knowledge sharing through CoPs can transform teachers by contributing to their immediate context or needs. There are various national and global IT platforms that are designed to enable teachers to participate and share knowledge in a CoP but in many countries, online platforms for the professional development of teachers are relatively new. This systematic literature review reports a qualitative synthesis of literature on in-service teachers' online CoP participation. It adheres to the five-step literature search and analysis process by Creswell (2012). Seven peer-reviewed articles were included from 603 initial records. Applying an approach inspired by grounded theory (Corbin & Strauss, 1990), themes were identified in each article and then grouped into seven categories as follows: (1) In the online communities of practice, in which activities do teachers engage with one another? (2) What knowledge do teachers share in the online CoP? (3) What motivates teachers to participate and share knowledge in the online CoPs? (4) What are the barriers to teachers' participation and knowledge sharing in the online CoP? (5) What roles do moderators play in teachers' online platforms? (6) What are the perceived benefits of teachers' online CoPs? (7) Which factors should be considered while developing online platforms for teachers?

**Keywords**: school teacher, professional development, communities of practice, teacher knowledge sharing, teachers' emotional development, barriers to online participation

## 1. Introduction

Web based platforms, particularly those designed and developed for school teachers, facilitate access to authentic materials and experiences, eliminate physical boundaries and pose no time restrictions. The innovation of such online communities of practice (CoPs) enables people "not just to do more of the same, but to do something different, something powerful, something appropriate for all learners in the new millennium" (Riel & Fulton, 2001:523). The framework for 21st Century learning, which re-envision students' learning in the rapidly evolving technological world, includes four broad skills categories: (1) core subjects (e.g., English, mathematics and science) and 21st Century themes; (2) life and career skills; (3) learning and innovation skills; and (4) information, media, and technology skills (Bellanca & Brandt, 2010). "The framework recognizes that educational support systems – especially professional learning experiences – are vital" (Bellanca & Brandt, 2010). Despite teachers' time limitations, anecdotal evidence suggests that online platforms can contribute to the development of professional learning experiences (Baek & Barab, 2005). Online platforms that cover one or more of the 21st Century learning categories are rapidly growing and contribute to teachers' knowledge sharing. However, scientifically, the realization of teachers' online CoPs within or beyond national boundaries is an understudied area. Although online initiatives for professional development on an individual level or at school level started some time ago, the same for school teachers is a new phenomenon in many countries' national strategies. Therefore, the purpose of this literature review is to summarise the findings on in-service teachers' professional development and the role of online platforms designed for or adopted by school teachers towards forming a community of practice.

The objective is to use a number of research questions to identify and categorize the themes that would contribute to designing online platforms for school teachers' professional competence development, and the formation of CoPs. The review does not intend to answer a specific question but rather identify the scope for further research.

The paper is structured as follows: First, it presents the key terms related to online CoPs to reflect on the philosophical assumptions and practical premises. Second, the methods applied for literature selection and

analysis are briefly reported. Third, a summary of the reviewed papers followed by a synthesis of articles is reported by categorizing them in the form of questions.

## 2. Communities of practice

From a socio-cultural and historical perspective, Lave and Wenger (1991:98) defines a CoP as follows:

> *"A community of practice is a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice. [It] is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. Thus, participation in the cultural practice in which any knowledge exists is an epistemological principle of learning."*

Wenger's *architecture of learning* includes four spaces or dimensions: participation and reification, the emergent and the designed, the local and the global, and identification and negotiability (Wenger, 1998). *Participation* is "the social experience of living in the world in terms of membership in social communities and active involvement in social enterprise" (Wenger, 1998:55). Reification is "the process of communities and active involvement in social enterprise". These two processes are complementary. The *designed* and the *emergent* dimensions are related to time; the designed activities for teaching and emergent learning activities are not the same. *The local* and the *global* emphasize the context sensitivity and generalizability; this focuses on the challenge of sharing local experiences in a way that will be useful and relevant for other contexts. The emphasis of *identification* and *negotiability* is on resolving conflicts and "how the power to define, adapt, or interpret the design is distributed" (Wenger, 1998:235).

Communities develop their practice through a range of activities like problem-solving, requests for information, reusing assets, coordination and synergy, building on argument, growing confidence, discussing developments, documenting projects, visits, and mapping knowledge and identifying gaps (Wenger-Trayner & Wenger-Trayner, 2015). In keeping with different activities, CoPs are also known by other names such as thematic groups, learning networks and tech clubs.

McClure, Wasco and Farad (2000) examined three CoPs to see why people participate and share knowledge online. They applied three perspectives of knowledge: knowledge as an object (justified true belief), knowledge as embedded in people (that which is known) and knowledge embedded in the community (the social practice of knowing). The value of content were categorized into *tangible returns* (useful, valuable information, answer to a specific question and personal gain), *intangible returns* (enjoyment/entertaining, learning, interaction with a community, multiple viewpoints, peer group, altruism/pro-social behaviour, reciprocity or give something back to community in return, advance the community) and *barriers to participation* (group related barriers caused by undesired responses and obstacles to participate). While these findings might persuade school teachers to take part in an online CoP, the teachers would also like to know what to expect from a CoP and how to achieve their desired personal and community goals.

## 3. Method

This systematic review of literature is conducted adhering to Creswell's five-step literature search and analysis process (Creswell, 2012:81).

- Identify key terms to use in your search for literature
- Locate literature about a topic by consulting several types of materials and databases including those available at an academic library and on the Internet
- Critically evaluate and select the literature for your review
- Organize the literature you have selected by abstracting or taking notes on the literature and developing a visual diagram of it
- Write a literature review that reports summaries of the literature for inclusion in your research report.

### 3.1 Identify key terms

Three searches were conducted using the keywords "teachers learning", "development", "online" and "communities of practice". The keyword "teacher education" was discarded – the objective is to review in-service teachers' practices and not how teachers are educated.

### 3.2 Locate the literature

The systematic literature search was conducted using Google Scholar through Publish or Perish software (Harzing, 2012), and library-facilitated access to databases. The searches were restricted to English, peer-reviewed, full-text accessible resources, and from 2000 to present.

### 3.3 Critically evaluate and select literature

Figure 1 illustrates the method of search, examination and assessment of suitability or exclusion which is based on the PRISMA flow diagram (Liberati et al., 2009). First, 580 articles were identified through Publish or Perish software (Harzing, 2012). The program sorted the articles by relevance and the first 100 articles were screened considering their title, abstract and keywords. In the process, 94 of the 100 were excluded and 6 articles were selected. The reasons for excluding some articles were one or more of the following: (1) The text's focus is different from (elementary/primary/secondary) school teachers' learning, (2) the central issues do not involve online platform and teachers' practice or participation, or (3) the text has another focus.

A second search was conducted on Proquest, using different combinations of the keywords "teachers", "learning", "development" and "virtual communities of practice". This search returned 14 articles, 10 of which were screened. Finally, a backward-chaining exercise identified nine more articles. The literature selection process ended with 25 articles that were either journal papers or conference articles.

In the assessment phase, the 25 full texts were evaluated for their suitability and 18 were excluded, leaving seven articles for systematic analysis and synthesis.

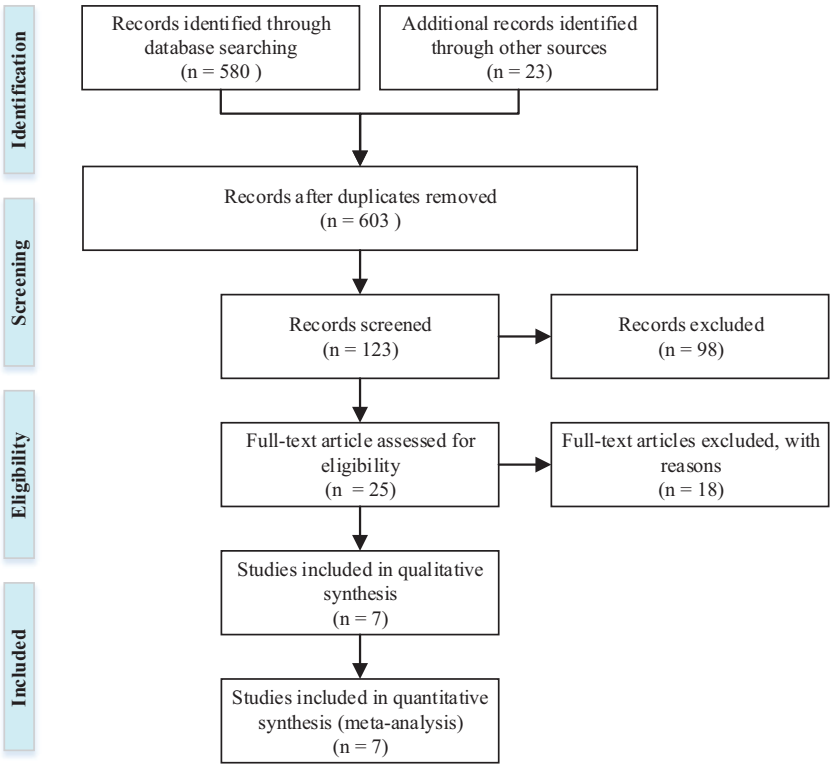


**Figure 1:** PRISMA flow diagram (Liberati et al., 2009)

### 3.4 Organize the literature and visualize it

In the results and discussion section, the seven articles are summarized by noting the research problem, the research question, the data collection procedure and the findings, as suggested by Creswell (2012).

The process of analysis and synthesis followed an approach inspired by grounded theory (Corbin & Strauss, 1990). The identified themes were grouped into broader themes. When new themes were identified, they were added to the list, and when a theme matched an existing theme, the article was marked against that theme on

the list (Creswell, 2012). The visualization in Table 1 helps to see overlap amongst the findings in the articles (Creswell, 2012) but the visualization of inter-theme relationships is not shown in this paper.

## 4. Results and discussion

This synthesis includes six journal papers and one conference article, all of which were published during 2005-2014. Table 1 shows an overview of the themes, authors and the country of the institution they are affiliated with, and the year of publication.

*Baek and Barab* (2005) write, "In order to illuminate potential difficulties which may arise when attempting to design a framework to characterize or to build a CoP, this study describes the dynamics of five dualities (specific areas of tension) that were identified during the design and testing period of […] a Web-based community for teachers' professional development" (p. 161). Their data includes document analyses, interviews with designers, researchers and teachers, and observations of online and face-to-face meetings. Their research question is: What aspects of the design were gradually changed? How, why and when were they changed from the initial design? (p. 162).

*Chen, Chen & Tsai* (2009) examine six synchronous online discussions among the teachers on a course for teachers' professional development. They look at 3600 messages and interview 10 teachers. The research questions are designed to (1) examine the benefits and frequency of synchronous discussions from interaction types, cognitive and metacognitive skills, and (2) learn how messages vary by time of posting and the participating teachers' perceptions towards the synchronous discussions of online teachers' professional development.

*Duncan-Howell* (2010) examines three different online communities in Australia based on a quantitative online survey with 96 participants (from a local state-based community, a national online community and an international one). The research question explores the online communities' nature and Duncan-Howell offers some conclusions about their potential and resources for professional learning for teachers (p. 327).

*Gaillard & Rajić* (2014) present "a case study of a successful community of practice developed under the umbrella of Council of Europe Pestalozzi program for teacher development" (p. 457). The platform contains different rooms, a reception area, a coffee shop, and professional development and exchange spaces. They report the pros and cons of the virtual CoP.

*Hew and Hara* (2007) observe activity and messages on a national online platform for language teachers in the United States. They examine a large mailing list. The research question is: What activities and knowledge do teachers share with each other, and what are their motivators and barriers to sharing knowledge?

*Hur and Brush* (2009) examine online communities established by teachers themselves. They interview 23 teachers who participate in the independent online communities and analyse 2000 posts. They develop a case study based on eight criteria. Their research question is (p. 283): "Why do teachers want to participate in self-generated online communities of teachers?"

*Vavasseur and McGregor* (2008): "This mixed method case study provides insights about how the professional development of middle school teachers is facilitated through their participation in content-focused online CoP. A key finding from this research reveals that the online community provided teachers with enhanced opportunities to share ideas, to discuss issues, and to make new connections with colleagues as well as with their principal" (p. 517). Their research questions are (p. 517): What was the focus of the interactions among teachers while they participated in the online community of practice? How did teachers perceive the participation of their school leaders in the online community?

### 4.1 What knowledge do teachers share in the online CoP?

The articles identified and suggested various approaches on how to initiate and increase participation in an online platform for professionals.

**Table 1:** Overview of the reviewed articles and identified themes

| **Year of publication** | **2005** | **2007** | **2008** | **2010** | **2014** | **2014** | **2014** |
|---|---|---|---|---|---|---|---|
| Author(s) | Baek & Barab | Hew & Hara | Chen, Chen & Tsai | Duncan-Howell | Vavasseur & MacGregor | Hur & Brush | Gaillard & Rajić. |
| Background | | | | | | | |
| Geographical distribution | USA | USA/ Singapore | Taiwan | Australia | USA | USA | Croatia |
| **Article type: conference paper (C) / journal article (J)** | **J** | **J** | **J** | **J** | **J** | **J** | **C** |
| **Themes:** | | | | | | | |
| The teachers' basic need: more time | X | X | X | X | | | |
| Technical complexity, technical insecurity | X | X | | | X | | |
| Who is participating in the platform? Is the communication private or public? | X | | | | X | | X |
| The purpose of the community: Fulfil school reforms or daily practice? | X | | | X | | | |
| Internet access | | | X | | | | |
| Need for new competencies and a language | X | | X | | | | |
| Moderator or facilitator is essential for development | | X | X | | X | | X |
| Monitoring and reflexivity over the learning process | | X | X | X | X | | X |
| Consideration for the design of the platform | X | X | X | | | X | X |
| Motivators and barriers for digital communities of practice | | X | | X | | | X |
| Teachers get new/updated subject knowledge | | X | | X | X | | |
| Reasons for the teachers´ participation or lack of participation | | | | X | | X | X |
| What influence does it have on teachers when they participate in a digital community of practice | | | | X | X | X | |
| Online discussions´ content | | X | | | X | X | |
| Anonymous participation | | X | | | | X | |

Most of the articles reported that teachers exchange professional knowledge, materials and teaching strategies in the online CoP. Teachers also share feelings and concerns about their profession (Hur & Brush, 2009; Vavasseur & Kim MacGregor, 2008)

Hew and Hara (2007) found that teachers share book knowledge, practical knowledge and cultural knowledge. The most common types of knowledge shared were opinions, personal suggestions, book knowledge and institutional practice. Practical knowledge, which refers to knowledge related to actual practice, were further classified into one of the following three main categories: (a) personal opinion, (b) personal suggestion and (c) institutional practice. Personal opinion refers to an individual opinion not necessarily representing best practice.

Duncan-Howell (2010:338) recognised that online communities proffer forums where teachers can discuss strategy changes, gather evidence and make proposals for new strategies. Hur and Brush (2009:291) found that, apart from knowledge sharing, feelings are also shared and this attracted the most attention.

Vavasseur and McGregor (2008) found that online discussions contain not only professional and resource issues, but are also about the development of new materials, identifying problems and professional discussions about students' use of computer technology. The teachers and principals participated in a content-focused community and posted on "teachers' perceptions of their personal computing efficacy, content-focused dialogue, and concerns about students' use and misuse of technology" (p. 527).

### 4.2 In the online CoP, with which activities do teachers engage with one another?

All the studies that analysed online content dealt with discussion forum posts. Out of their analysis of 630 online messages, Hew & Hara (2007) found 9 types of activities that teachers share with each other: requests, appreciation, official comments, announcements, apologies, clarification, compliments, empathy and knowledge sharing.

Chen et al. (2009:1158) applied an analysis framework to categorize messages in four major dimensions: "*participation rate*, *social cues* [i.e. a statement which is not related to formal content or subject matter], *interaction types* [i.e. direct response, indirect response, independent statement, other*], cognitive and metacognitive skills.*" Cognitive skills are categorized and defined as *elementary clarification*, *in-depth clarification*, *inference*, *judgment* and *strategies*. Metacognitive skills are categorized as *evaluating*, *planning*, *self-awareness* and *none*.

### 4.3 Which factors should be considered while developing online platforms for teachers?

The articles reported five factors to the developers of online platforms: (1) the teachers' influence, (2) technology complexity, (3) communication opportunities, (4) the purpose of the platform and (5) the participants' different roles in communication.

First, the importance of the teachers' influences on the design. Is it designed for teachers? Can the teachers influence the design and thereby experience ownership? Baek and Barab (2005) pointed out that teachers want designers who understand their culture. "To ensure that participants successfully engage in the learning process, the content must address the needs of the teachers" (Duncan-Howell, 2010:337). Similarly, Duncan-Howell (2010) pointed out: "For professional learning to be sustained and not limited to short programs, the mode of delivery needs to suit teacher conditions and be sympathetic to their specific needs as learners" (Duncan-Howell, 2010:325).

Second, the complexity of the platform. The researchers are not in agreement whether complexity promotes or discourages participation. Baek and Barab (2005:171) discovered that technical complexity could provide a sense of community among the participating teachers since they work together to solve problems. On the other hand, Baek, in Hur & Brush (2009:282), saw that a lack of technical support inhibits participation. Chen, Chen and Tsai's results suggested that there must be space for the teachers in the daily schedule to include online professional development. The teachers' technological expertise and knowledge of online learning platforms differ and access to the Internet and computers in the workplace have an impact on their online learning experience (Chen et al., 2009:1156, 1163).

Third, is it a public or a private network? Is there an opportunity for both?

> *New social contingencies are required, in which participants are willing to engage in critical dialogue about teaching practices […] The addition of a private place where small groups could work together called for fundamental changes in the underlying assumptions of the ILF [Inquiry Learning Forum ] design (Baek & Barab, 2005:172).*

Gaillard and Rajić (2014) agreed that private versus public network access should be taken into consideration; The European network they studied only accommodates projects and suggested a design with spaces for professionals across projects.

Fourth, the developer must consider the purpose. Hur & Brush (2009) found that the developers of online communities need to be more aware of the teachers' emotional sharing and the need to promote professional self-confidence. "To create a Web-supported community as a vehicle for education reform is not to build a single technical tool, but rather to create a socio-technical network" (Baek & Barab, 2005:176). Is the network a platform for the introduction of a school reform? Who participates in the network – only teachers or is it opened for the principal and others? What internal and external borders does the community have? (Baek & Barab, 2005:174).

Finally, the platform should provide scope for users to have different participatory roles. Many teachers might want to participate anonymously so that they can share problems that they cannot discuss at their local school (Hew & Hara, 2007). Some argue that anonymity help them to contemplate the situation objectively (Hur &

Brush, 2009). Lurkers are also named as participants in online communities; lurkers are people who read posts but don´t write posts themselves (Hur & Brush, 2009).

In summary, developers must be aware of teacher culture and context, the purpose of the platform, the complexity of the technology and that teachers have different abilities and needs. Developers must understand the community's target users (and their variations) and allow the opportunity to share emotional experiences. The CoP must provide space for different participatory roles such as anonymous users and lurkers. "However technically well-designed, a network does not necessary guarantee active participation" (Baek & Barab, 2005:172). It is important to design networks in such a way that a prospective and desired participant is not prevented or discouraged.

### 4.4 What motivates teachers to participate and share knowledge in the online CoP?

Teachers participate in CoPs because of their professional needs and for emotional support (Duncan-Howell, 2010). They also participate when the discussions focus on classroom strategies or themes relevant to them. Teachers' average online community participation is approximately 1.5 hours a week, translating to 60-80 hours a year (Duncan-Howell, 2010:338). Hur & Brush (2009) found five reasons why teachers participate: to share feelings about teaching, to find opportunities in online environments, to combat isolation, to explore ideas and to experience companionship. They referred to Vasconcelos who concludes that "the most crucial aspect of an online community is not the information shared in the communities, but rather the sense of belonging that participation engenders" (Vasconcelos in Hur & Brush, 2009:291–299).

Seven motivators to share knowledge were found: collectivism, positive feedback, personal gain, altruism, technology, a respectful environment and interest from other teachers (Hew & Hara, 2007:583–586). The ideal seems to be a culture borne of collectivism and positive feedback, requiring both professional discussions and emotional support, and supporting the need to belong while avoiding isolation.

### 4.5 What are the barriers to teachers' participation and knowledge sharing in the online CoP?

Hew & Hara (2007) found five barriers to participation and knowledge sharing: lack of knowledge, lack of time (or competing priorities), uncertainty in the application of the technology, not wanting to cause a controversy and a negative attitude towards the information seeker (including egocentric attempts to reserve knowledge).

Chen et al. (2009) identified barriers to be teachers' lack of technical computer expertise, their unfamiliarity with online communities and limited access to computer and Internet resources and services (i.e. restricted to working hours in the workplace).

Vavasseur and McGregor (2008) discovered that unresolved or high expectations from principals could hinder teachers from actively engaging in learning communities. Baek & Barab (2005) reported that several teachers were unable to express themselves or perform well online as they were afraid of being criticized by colleagues; their only online comments were superficial.

Gaillard and Rajić (2014) concluded that further research is needed to understand why some teachers participate and others do not. It would be interesting to gain insight into the characteristics that push practitioners towards a more reflective practice.

To summarize, the barriers perceived by teachers are time, technology, access, lack of knowledge and emotional barriers such as fear of criticism, negative attitude, the principals' involvement and a lack of language skills.

### 4.6 What roles do the moderators play in teachers' online platforms?

A moderator is a steward in an online community of practice; the role establishes a human presence to coordinate the CoP fellowship, lead meaningful and goal-orientated dialogues and help members develop (Gaillard & Rajić, 2014). Vavasseur and McGregor (2008) found that thought-provoking questions from the facilitator who supported the discussions, garner more participation and that the availability of technical help is a key to success. The moderator significantly contributes to solving or circumventing technology barriers and avoiding misunderstandings that arise through the lack of body language and tone (Hew & Hara, 2007).

A moderator's participation and other roles is essential to the participants' learning (Chen et al., 2009). When a moderator qualifies the discussion, the participants get involved and contribute with cognitive and metacognitive reflections. The learning outcome is increased if the teachers are monitoring and regulating their students' knowledge and learning process during the discussion (Chen et al., 2009). Reflexivity, understood as committed reflexive conversations between participants, is the reason why online communities succeed and give control to the individual teacher. Committed, detailed questions increase motivation and receive positive responses. However, when a principal initiates discussions, the participants feel that he or she is breathing over their shoulders or inspecting them (Vavasseur & Kim MacGregor, 2008).

Pedagogy, the knowledge and practice of teaching, is improved by a process of critical reflection in a community of educators (Kemmis, 1989 in Duncan-Howell, 2010:326). In addition to monitoring the discussions, teachers must develop a new competence: increased learning through online discussions. This happens by focusing on the topic, engaging participants in deep learning, engaging in meaningful discourse and by involving cognitive and metacognitive skills (Chen et al., 2009).

### 4.7 What are the perceived benefits of teachers' online CoPs?

Digital platforms help develop teachers to become more reflexive and mature their competence as technology providers or facilitators. The interviews by Hew and Hara (2007) suggested that online knowledge sharing help teachers to achieve new insights and ideas regarding the subject material and remain up to date in their subject area. Gaillard & Rajić (2014) also found that learning takes place in the CoP when teachers share their experience and offer informed opinions. Duncan-Howell (2010) found that the network offers the opportunity to be introduced to new ideas and to teaching methods improved by a process of critical reflection in a community of educators. The varieties of professional learning opportunities offer meaningful professional development. Hur and Brush (2009) explained how sharing ideas and tips with other teachers online can assist teachers not only with new ideas but also to reflect on their teaching strategies. Vavasseur & Kim MacGregor (2008) showed that teachers use humour among themselves in their learning process and that they value the use of a computer to grow their teaching practice. They receive curriculum-based knowledge, increase confidence in implementing technology and participate in the development of internal academic subjects.

In summary, the studies indicate that online communities of practice increase the teachers' professionalism, augment their experience and update their subject knowledge through discussions and affiliations in an online community of practice. Teachers achieve a reflexive level that strengthens their self-confidence and teaching practice as technology facilitators.

## 5. Conclusion

The seven articles reviewed show that there is great variation in the design, structure and use of virtual communities. However, this review is concerned with the online community's role in teacher practice development and what effect the platforms' design may have.

Online CoPs include opportunities for professional discussions and sharing of professional resources, materials and teaching strategies. Additionally, teachers discuss didactics, pedagogical issues and changes. Hew and Hara (2007) found that knowledge sharing and emotional sharing takes place among teachers. A future study might investigate how the construction of the platform supports both knowledge and emotional sharing; especially, does the design impact on what is shared?

The investigations highlighted a number of areas that designers should consider to ensure that the design and development of the online platform do not pose barriers to teachers. The articles concluded that developers should:

- Know the teachers´ culture and context
- Know the community/network's purpose
- Consider the complexity of the platform - teachers come with different needs and requirements
- Know the purpose of the platform
- Give the opportunity to share emotional experiences

- Allow different roles and visibility levels such as anonymous responders and lurkers.

It is evident that there are motivating factors for as well as barriers to teachers' participation and knowledge sharing in online CoPs. It appears that a culture of collectivism and positive feedback predominates among teachers when it comes to the exchange of knowledge and professional resources. They seek out professional didactic coaching and value emotional support; the online community offers a sense of belonging and helps teachers avoid professional isolation. On the contrary, teachers' professional workday schedules are perceived as a barrier, along with a lack of technological skills and lack of knowledge. This perceived barrier discourages teachers from participating. Finally, there may be an emotional barrier that causes teachers to avoid participation or to participate only superficially. This emotional barrier is triggered by a fear of criticism, leaders or facilitators who want to control dialogue rather than lead it, or a lack of linguistic skills to give and receive constructive criticism.

The literature suggested two main factors that are essential for professional development and positive learning outcomes through online communities: a suitable facilitator/moderator and a good structure for communication. First, a good facilitator is essential to moderate the framing and qualifying process of an online discussion, to lead teachers to the desired reflexive level and to help them benefit optimally from their participation. Topics for future study could include (1) What moderator questions would create a "good" online CoP for teachers? and (2) What qualifies a person as a moderator compared to other participants? These questions are not addressed in the reviewed articles. The second essential factor for any CoP is how its structure enables convenient communication; the premise is that all participants must have a common interest in the theme (Wegner, 2002 in Hew & Hara, 2007:575).

Online CoPs offer various opportunities but they also necessitate the development of new skills (i.e. IT skills and other), to manage various threads and participate in the different roles. This could also be a future research topic: How can teachers learn about the different online participation and facilitation categories and the required skills for these?

None of the reviewed articles investigated different school cultures as an element that might impede teachers' participation in global online communities. However, inter-cultural exchange through online CoPs has been discussed in existing literature.

Last, the literature suggested that national and international online CoPs for teachers can build competence and contribute to educational development locally, nationally and globally, depending on the scope, language, content, access and other factors of the platform.

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