

Chapter 18

Professional Learning Communities in a Web 2.0 World: Rethinking the Conditions for Professional Development

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Abstract The new technologies, in particular social media in Web 2.0, enable rapid change in people's behaviour, which needs to be considered in research on teacher empowerment and teacher professional development and growth. In this chapter we discuss how teachers in an informal, yet structured, way use social media to expand their professional learning communities beyond the local school context in Sweden. This is an example of how a new behaviour is emerging among teachers that changes the opportunities and the frames for professional development and growth. Through teachers' engagement in social media, such as Facebook, extended professional learning communities arise and teachers' professional development and growth become evident. Global levels influence local levels: teachers from different schools engage in structured discussions related to everyday practice, such as issues of learning goals in pre-school or topics related to a specific course in upper secondary school. The teachers' arena for professional development and growth has changed, which means that the context of teacher empowerment is rapidly changing too. Consequently, the chapter includes theoretical reflections on professional learning communities in a Web 2.0 world and how this phenomenon may affect our approach to enhancing teachers' professional development.

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18.1 Introduction

In a review of research on teachers learning from teachers, White et al. (2013) have found that there is a complexity of settings in which teachers learn. The complexity is “influenced by both global and local forces, such as the recent pressure on teachers to meet different demands imposed on them [...] directly by politicians and national laws” (p. 421). The institutional context and the teachers themselves as learners are interdependent.

Moreover, the current evolution of social media and social network sites transforms the day-to-day practice, the lived experience, and with whom we share the experience. There are no distinct borders between “the life on social media” and “the real life” (Ellison and Boyd [sic] 2013). In recent years teachers have started to use different online forums, such as web sites, personal blogs, Twitter or Facebook, as resources in terms of networking, sharing knowledge, giving and taking advice, sharing and discussing curricular material, etc. (e.g. Bissessar 2014; Hew and Hara 2007; Manca and Ranieri 2014; Liljekvist 2016; Rutherford 2010; Ruthven 2016; van Bommel and Liljekvist 2015). The teachers’ arena for professional development and growth has changed, and hence the context of teacher empowerment is rapidly changing too. Teachers initiate activities on social network sites, or activities can be initiated within formal professional development. This is an example of how teachers’ practice changes and develops, thereby affecting conditions and professional development opportunities.

The development of professional learning communities (PLC) seems to have a positive impact on school improvement. Vescio et al. (2008) have described the following five essential characteristics of a PLC: in a PLC, teachers (1) share values; (2) develop norms; (3) have a focus on students’ learning; (4) discuss curriculum, instruction and student development in an ongoing dialogic process; (5) focus on cooperation in such a way that teaching practice is de-privatised and knowledge is shared.

In this chapter we examine the theory-building potential when rethinking the new conditions for professional development in order to understand how PLCs work in a Web 2.0 world. We argue that teachers’ online communication, as one part of their everyday practice in the local school, can be looked upon as a new extended learning community that challenges and advances teachers’ practice. This means that teachers (regardless of whether or not they have the opportunity to work in a local PLC at their school) may combine their professional knowledge, based on local practice and the curriculum, with knowledge acquired and developed at a global level, that is, with colleagues on social media and social network sites. In this chapter we show how teacher movement into social media is connected with professional development at a local level. We start by outlining the everyday practice of teachers in an age where the use of Web 2.0 tools is a common occurrence. We describe the role social media and social network sites play in teachers’ day-to-day experiences, and provide insight into Swedish teachers’ day-to-day practice. The Swedish example lays the ground for a discussion

regarding the theoretical assumptions and opportunities of PLCs, as well as the methodological issues regarding research within PLCs that includes teachers' knowledge-building on social media and social network sites.

18.2 Day-to-Day Experiences of Today's Teachers

The epistemological assumptions in learning communities are that knowledge is situated in day-to-day lived experiences, and that a professional [teacher] best understands his or her everyday practice through critical reflection with others who share the same experience (Buysse et al. 2003). Avalos (2011) has explained that this is a consequence of the situated nature of teachers' professional development: teachers' professional learning and growth are embedded in the school environment and its culture. It is also, she continues, intimately related to how the present educational system and policies affect teachers' work life. However, teachers' day-to-day experiences are changing.

Facebook, as one type of social network site, offers opportunities to comment and to share, like Twitter and other websites, but it also provides opportunities for the "members" to ask questions and to get responses from others. Thus, the teachers themselves can activate pedagogical discussions of teaching and learning. This differs from how more monologic Internet resources work, such as blogs or websites (cf. Liljekvist 2016; Ruthven 2016). Rutherford (2010) concluded that a social network site "provides teachers with an opportunity to engage in informal professional development that is participant driven, practical, collaborative" (p. 60). This opportunity changes the way day-to-day experience of teachers is shared and discussed, as excerpts in the next section will show. These discussions are separate from the local, surface-level, work-related issues, and hence give opportunity to focus the conversation on an issue and critically discuss pedagogical subject matter. Admittedly, the quality of the knowledge-sharing on social media varies, but our point is that the activities on social media constitute a new and vibrant dimension in teachers' day-to-day lived experiences (cf., Bissessar 2014; Borba and Gadanidis 2008; Ellison and Boyd 2013).

Nevertheless, the opportunity for teachers to extend their lived experience to a social network site is, of course, not enough to develop a sustainable PLC. It takes reflection and mentoring, as well as shared norms, focus on students' learning, and de-privatised practice as shared knowledge (Avalos 2011; Buysse et al. 2003; Stoll et al. 2006; Vescio et al. 2008). In the following section we present some empirical findings from our ongoing studies to outline how PLCs seem to operate in the social media context. The purpose of these excerpts from the Swedish context is to illustrate the need to develop theory, rather than to make empirical claims per se.

18.3 The Swedish Example

Social network sites are widely used in Sweden. For example, 50% of the inhabitants actively use Facebook every day (Findahl and Davidsson 2015), and many teachers create and become members of specialised Facebook groups. The group members are spread throughout Sweden and unified by being practicing teachers. Social network sites can thus be viewed as emerging communities of practice (Goodyear et al. 2014).

Narrow thematic themes can have relatively few members, such as “Mathematics for course 2b in upper secondary school” with about 200 members. Not surprisingly, more generic themes appeal to more teachers. Hence the group “Mathematics for lower primary school” has 12,000 members and the group “Reading with older students” has 2500 members. Generic themes that are of interest to all Swedish teachers can attract groups of up to 35,000 members (In all, there are approximately 130,000 teachers in compulsory school and upper secondary school in Sweden).

However, the question is whether or not this social network phenomenon is likely to function as extended professional learning communities (ePLC). In terms of our findings, we can see examples of shared day-to-day practice in the social network sites where situated knowledge is established and reflected upon. In the excerpt below from a focus group interview, we can note such PLC characteristics as well as the limits of social media regarding PLC features.

- Teacher 1 Facebook is my colleague, sort of. When I prepare my lessons [...] that is, when I’m at home [laughs] I frequently use my Facebook group to discuss [pedagogical] things to make my instructions better and so on.
- Teacher 2 Yes, for me it is valuable since the working days are so intense [...] it is in the evening I have time to think
[...]
and to discuss [...] things [...] or kinds of problem [...] I mean teaching dilemmas [...] of course not some students’ [social] behaviour.

Both teachers express that Facebook gives them the opportunity to reflect, at home (teacher 1) and in the evening (teacher 2). Teacher 1 claims to use Facebook to establish situated knowledge—making instructions better. The same teacher also states that students’ social behaviour is something that is not discussed in the Facebook groups. This implies that the teachers in the Facebook group act as in a local PLC, but, evidently, without the shared responsibility for one specific student group.

The members of the different Facebook groups have chosen a specific domain in which to engage, for instance, teaching mathematics or Swedish. The community in a Facebook group is solely determined by the engagement of its members, who are all registered as practitioners. Any member can initiate a discussion by posting a “status”; others can continue and reply with a “comment”. Shared values and norms develop in the group.

Status 1 I would like to know your thoughts on how to plan lessons on how to tell the time in grades 1–3. Thanks!

Two of the comments in the succeeding thread (A) Start indicating the weekly schedule times on the board with small clock faces so the clock becomes an everyday experience. Tell the students to wear a wristwatch and use it daily. Let the students work two-by-two with different teaching materials.

(B) As there is only one goal which addresses weight, length, time and volume, I use about 2 lessons in the course of two weeks each term. Maybe some homework also. Then you can always challenge (the students) to practice it, for instance, through games, apps and so on during the term. I also think it is more interesting [for the students] to work with this topic when they are a bit older, 7–8 years, because their parents expect them to be on time more.

These teachers give advice to the question posted in status 1, based on their own experience. They do not merely answer the question described in the status, but also put the question in relation to the syllabus as a whole.

There are also members (C) in the group who read the thread without actually taking part in the discussion:

Comment (C) Thanks for wise thoughts and advice! Good idea showing the big clock in the morning. A new task for the classroom host tomorrow ☺.

Borko (2004) has claimed that critical discussion on teaching does not come about by itself, and that teachers need to “collectively explore ways of improving their teaching and supporting one another” (p. 7) in order to develop their teaching. This is shown in the communication between teachers A and B, and the teacher posting status 1. Another kind of in-depth discussion evolves from status 2 below, leading to a discussion on national test results compared to student grades.

Status 2 What is your opinion on the difference between the results in the national tests and students’ grades? It seems (nationally) that results on the national tests are lower than the individual grades on tests throughout the year ...

It is also clear, as van Bommel (2014) has shown, that teachers need substantial pedagogical content knowledge in order to be able to communicate the planning of lessons, the use of textbooks, etc. Status 3 below illustrates the need for such knowledge. When a teacher asks for (and further evaluates and discusses) a digital tool fulfilling specific subject-matter requirements, substantial pedagogical content knowledge is needed.

Status 3 I need some help with an app or a programme for “Smartboard” (interactive board), which can demonstrate an exercise like:

$$7 + 5 = 10 + 2 = 12$$

I want to be able to change and be able to show ‘filling up the tens’.

In the social network sites, we can see how teacher practice becomes quite de-privatised, and, hence, shared knowledge can develop. The focus in the communication is fairly often on student learning, and different types of media are used. In status 4 below, a teacher shares a film on classwork outdoors in geometry, showing how the lesson was orchestrated and the learning outcome to be assessed.

Status 4 I want to share with you a film of our work outdoors today in geometry, for age 7. Circles, squares and triangles (then a link to a film showing parts of the outdoor lesson, and the outcome of the students’ work).

In the Swedish example we have now seen how teachers discuss, for instance, curriculum, instruction and student development, an activity that is one of the five essential characteristics of a PLC (Vescio et al. 2008). The teachers’ everyday experience also takes place in social media, which means that the practice becomes de-privatised and shared knowledge seems to develop. How can we understand the interdependence between teachers’ professional development in their school context and the phenomenon of digitally ePLC?

We know that PLCs are mainly constructs to describe important features in the processes of professional development to promote student learning in the local school (cf. Horn and Little 2010). However, our point is that social media change the frames of communicative behaviour. Social network sites and social media are vibrant parts of the everyday lived experience of teachers and nowadays they have a more or less global colloquium in addition to fellow teachers in the local school or school district. Further, our results indicate that teachers communicate on social network sites as if they address their status updates and comments to “some colleagues”. It does not appear to be a deliberate communication with all (thousands) the individual members.

We argue that this extended professional context may have implications for research conducted with PLCs as a theoretical stance. It is an example of an emerging teacher behaviour that changes the opportunities and the frames of professional development and growth. In the following sections we outline some implications regarding inquiries into PLCs and social media in the form of theoretical and methodological reflections.

18.4 PLCs and Social Network Sites: Some Theoretical Reflections

In a PLC, teachers share values and develop norms and they have a focus on student learning. As mentioned, the dialogue in a PLC is an ongoing process where teachers discuss the curriculum, instruction and student development. Further, the focus on

collaboration leads to a de-privatised practice, and the teaching hence becomes shared knowledge (cf. Avalos 2011; Stoll et al. 2006; Vescio et al. 2008).

In a social network site, the de-privatising practice takes form in several ways. Some teachers post pictures or documents of material they have created and examples of student efforts, but short descriptions of the work situation can also be found. As other teachers do not know the specifics of the classroom or school concerned in the posted status, some background is given. However, since it is possible to give a much more colourful description of the background, the absence of more detail implies that there are values, norms and practices that are considered to be shared knowledge, thus indicating a developing ePLC practice.

Findings from various educational settings reveal how social network sites used as professional resources are not an isolated phenomenon and that the impact they have on professional development varies (see, e.g. Bissessar 2014; Liljekvist 2016; Manca and Ranieri 2014; Rutherford 2010; Ruthven 2016). Communication in social network sites makes the ongoing dialogue asynchronous; that is, a status posted on one day may yield replies several days (or weeks) later. This aspect may contribute to the focused dialogues regarding, for instance, curriculum, instruction and student development on social network sites. New ideas or questions not directly related are posted as a new status and therefore do not interfere with the actual discussion thread of each status. The communication hence supports the development of shared pedagogical subject knowledge on more than a surface level. Individual members can, of course, go into a synchronous session such as a chat or video conference outside the group, but this lies beyond the scope of the studies underpinning the theoretical discussion in this chapter.

If we consider the term “professional” in PLC, we know that it is not merely a question of teachers’ knowledge-sharing, but a matter of the foundation of the local school culture that expects collaboration and involves an ongoing inquiry into the practice of improving student outcomes (Stoll et al. 2006). The assumption is that what teachers do together in out-of-class meetings is important and affects their professional development as well as student learning (Leder 2008; Stoll et al. 2006). If, then, the lived experience of teachers is branching out to social network sites, this should affect the notion of “togetherness” and “out-of-class meetings”.

There are, however, key characteristics (cf. Stoll et al. 2006) that are not possible to develop in a social network site more or less “open to all”: first, as there is no “local school” within the Facebook groups, there is no collective responsibility for student learning in the respective local school, and, second, the communication in the Facebook groups is not a form of in-school collaboration. Kling and Courtright (2003) have pointed to the fact that groups on social media have a different role from the local group of people working together. For instance, colleagues on Facebook could be reached regardless of time and place. They put forward the role of social network sites and social media as enhancing, extending and supporting wider group processes and objectives.

Nevertheless, our results show that a local PLC in Sweden is very likely to be influenced by the teachers’ professional communication on social network sites, and hence, a need for theoretical development of a digitally extended professional

learning community (ePLC) arises. The teachers' empowerment and opportunities to develop shared knowledge and a sustainable, reflective, professional inquiry at the local school level may thus be enhanced—partly because of the professional communication on social network sites. Research on professional learning also stands to benefit generally from the recent opportunity to study digital communication (see, e.g. Bissessar 2014; Borba and Gadanidis 2008; Dalgarno and Colgan 2007; Goodyear et al. 2014; Hew and Hara 2007).

18.5 Opportunities When Studying Teachers' Professional Learning in an Online Context

It is well known that a key factor in the progress of educational reform is teachers' capacity on both the individual and collective level, and how strongly it is linked to the "school-wide capacity" for promoting learning (Horn and Little 2010; Stoll et al. 2006). Capacity can be seen as a combination of skills, motivation and positive learning, in addition to organisational, infrastructural and supportive structures that can promote sustainable learning over time for all levels in the school system (Avalos 2011; Stoll et al. 2006). Thus, even if practicing teachers need to change their teaching because of external reforms, it can be difficult to integrate reform practices due to institutional and social expectations.

When it comes to supportive structures, it is not merely a question of digital resources. White et al. (2013) have shown that the relationships between the support given (e.g. by experienced teachers) and the supportee (e.g. the individual teacher, a group of teachers) can be of different kinds, such as teacher educators as guides, teachers and researchers working together, or teachers working together to design their own developmental activities. White and colleagues have pointed out the similarities and differences between the knowledge that teachers and teacher educators/researchers, respectively, bring to the learning interface. They stated: "neither group had all the knowledge that was needed for the development of teaching, but working together they could become a unified, powerful developmental force" (p. 422). This is also in line with studies emerging from in-service training of language teachers in Sweden (Sundqvist and Olin-Scheller 2013) as well as the review of teacher education by Leder (2008), where she has put forward the core factors of "community building" and "networking" as means for in-service teachers' out-of-class meetings.

Teachers' empowerment is an important aspect when the learning arena is extended to social media. White et al. (2013) have stressed that teachers' knowledge is pre-eminent in in-school situations, and researchers and teacher educators have "much to learn about issues that influence what can happen in schools, and what is needed to put research-based knowledge into practice" (p. 422). As social network sites can be seen as out-of-class meetings, they afford researchers the opportunity to conduct systematic studies of important factors and issues.

It is a matter of studying “the learning of practicing teachers: how they learn, what they bring to their learning efforts and how these efforts are reflected in changes in cognition, beliefs, and practices” (Avalos 2011, p. 4).

Webster-Wright (2009) has stated in her review of research informing professional development practice that it is necessary for us to learn from teachers’ authentic learning situations: “To gain further insights to enhance support for professionals as they learn, there is a need to understand more about how professionals continue learning through their working lives” (p.704). She has called for research aimed at understanding more about the experience of professional learning in order to support it more effectively, rather than merely developing professional development programmes. Studying how teachers use social media and social network sites will yield empirical findings to problematise, thus enabling researchers to move beyond the idea that formal and informal learning are different types of learning (e.g. Borba and Gadanidis 2008; Dalgarno and Colgan 2007). In this respect, such studies can identify and theoretically develop some aspects of professional development, teachers’ empowerment, and how to understand professional learning in a multitude of communities.

18.6 Methodological Implications

Conducting research on the Internet is challenging because of “Internet time” (Karpf 2012); that is, the rapidly changing context and content, and the code-based modifications: “Standard practices within the social sciences are not well suited to such a rapidly changing medium. Traditionally, major research endeavours move at a glacial pace” (p. 640). Karpf has concluded that it is important to take “Internet time” seriously when designing studies and he has thus recommended a question-driven methodological pluralism.

In studies on social media and social network sites, we need to analyse specific activities on the site, for example, asynchronous or synchronous communication, the different representations and the digital resources used. Ellison and Boyd (2013) have pinpointed the need to contextualise the activity-centric analyses because the way members position themselves within the social network site shapes their experience of it (e.g. due to innovations and technical changes implemented). Hence, a mixed method approach may be the natural choice.

Moreover, the ethical considerations are perhaps far more delicate when making inquiries into social network sites. What kind of data are we dealing with? Can the communication displayed be considered public record like debates in newspapers, or is it a private conversation? On the one hand, everything is most certainly already on record at the companies supplying the technical solutions, but, on the other, people using social media and social networking sites may well think of it as a personal and private sphere. When the studied groups are large, it is more likely that the members regard the communication as public, and hence the topic discussed may not be delicate, for example, psychological health or socio-economic personal

issues (Ellison and Boyd 2013; Robert 2015). However, the members of different social network groups have chosen a specific domain in which to engage and the theme in the group may well have a focus on delicate issues (cf. Roberts 2015). In education research this may be slightly less of a problem. However, the research community needs to take these questions very seriously. This is not only a question of the respondents' feelings and stances, or personal situation, it is also a matter of how the intervention (i.e. to explore the group activity) per se disturbs the communication pattern, the trust and the evolving norms, the participation pattern, and so on, in the group studied (Ellison and Boyd 2013; van Bommel and Liljekvist 2015). It is a matter of maintaining public trust in researchers as well as the possibility to conduct research in online environments in the future.

18.7 Conclusion

The teachers' arena for professional development and growth has changed in communities where Web 2.0 tools are commonly used. Social media and social networks are used for teachers' learning and knowledge-sharing, both in formal professional development programmes (e.g. Dalgarno and Colgan 2007) and in informal settings created by teachers themselves (e.g. Bissessar 2014; van Bommel and Liljekvist 2015). Hence, the frames of teacher empowerment are rapidly changing too since social media and social network sites support and enhance teachers' professional development.

In this chapter we argue for the need to rethink and develop theories that take the conditions for professional learning into account if we are to understand PLCs in a Web 2.0 world better. In other words, knowledge of how informal professional development in social media and social network occurs and develops may change researchers' and stakeholders' approach to how teachers' professional development is best served.

The literature shows fairly consistent views of the conditions under which an efficient (local school) PLC operates and the kind of activities and pedagogical considerations that a PLC should involve and aim for. On the one hand, collaboration in a PLC has to be close to the day-to-day practice, but on the other, social media and social network sites change the way teachers work together, and with whom and when they have in-depth pedagogical discussions. Teachers' professional discussions in social network sites tend to be related to reviewing lessons, teaching problems and pedagogical subject matter, and tend to generate new ideas for practice collectively. Hence, the teacher behaviour that is important for a PLC to emerge is already evident outside Web 2.0 in local school contexts, and thus this enables a digitally extended professional learning community (ePLC) to develop.

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