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The usefulness of a weblog as a tool for teachers' professional development**

Summary

This qualitative study examines teachers' use of blogs for professional development. It uses email interviews as a collecting data tool with six educators who regularly maintain educational blogs. It emphasises the significant role of weblogs as a platform that can transform the way educators interact, collaborate, and reflect on their teaching practices. Weblogs offer great opportunities for both synchronous and asynchronous communication, fostering knowledge sharing and professional growth. Research suggests that social interaction enhances teachers' cognitive and professional learning and weblogs are considered as an effective tool in this regard. The findings reveal that blogging teachers recognise the educational value of blogging for professional development. The study highlights the importance of integrating blogging into the teaching profession as a means of continuous learning, professional support, and reflective practice. However, further research is required to explore both the benefits and potential challenges associated with blogging in education.

Keywords: weblog, professional development, teachers, media competences, lifelong learning

Introduction

Technology has the great potential to create new methods of learning, as well as presenting innovative opportunities for teaching. The way that the Internet connects between different locations allows for wide-spread communication. For

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instance, homes, schools and public have become gradually online communities (Greenhow, Robelia, & Hughes, 2009). Anderson and Krathwohl (2000) state that this digital era emancipates educators and learners from the sole focus on acquiring and memorising information. Instead, it empowers them to focus on the creative side of building connections between concepts. Additionally, it provides new ways that make sense and determination in the current period. Selwyn (2011) cites that many psychologists and technologists agreed that digital tools can operate as influential social resources in one's learning context. It is argued that technology can be treated as a "social being" so that digital tools are seen more capable of providing knowledge than people (Bracken & Lombard, 2004). A weblog has the potential to provide enormous opportunities for teachers to expand their knowledge and understanding. Blogs potentially provide teachers with access to a wide range of resources that facilitate the gathering and sharing of knowledge. In addition, they promote lifelong learning by supporting professional development and adaptability to new educational trends. Moreover, blogs improve media competency by enabling teachers to critically analyse, create, and effectively use digital material in their teaching practice (Mackey & Jacobson, 2011). Blogs also facilitate social interaction, which is an effective method to gain new understanding and awareness, and should be encouraged where possible. Having said this, there is a lack of investigative research how sustained blogging influences teachers' professional development (Trust, Krutka, & Carpenter, 2017). Understanding whether continuous blogging participation leads to long-term improvements in teaching practices and professional learning remains an important research topic (Guskey, 2002). Therefore, the goal of this study is to investigate teachers' perceptions of the value of weblogs for professional growth.

Theoretical Background

Weblogs definition and characteristics

There is no universally accepted consensus on the definition of blogs. However, Pomerantz and Stutzman (2006) state that "a blog is a web-based tool that allows an author (the blogger) to post information for consumption by other[s]" (p. 201). Weblog was first named in 1997 by Barger and then shortened to blog by Merholz in 1999. Thus, blogs are also referred to as weblogs and are used interchangeably in this study. Blogging can be described as a form of micro-publishing, and it is seen as a powerful phenomenon that attracts audiences interested in academia (Welch, Jensen, & Reeves, 2003). Thomas and Brown (2011) identify that blogging is a vehicle for representation of an individual's transformative knowledge and

life experience. Therefore, everyone who can construct a simple Microsoft Word document could build and maintain a blog (Yang, 2009). Bloggers can make their blogs more attractive by inserting pictures, website links or by adding media files. Additionally, to increase the appeal of blogs, readers are able to reply and comment on the blogs of others in a limited number of steps (Rodzvilla, 2002). Goodfellow and Graham (2007) mention the reasons underpinning the popularity of weblogs. They are free or cheap to create, does not require the installation of any specialised software, do not require any advanced computer programming skills, bloggers can easily update and publish content.

Blogs on teacher professional development: Promoting lifelong learning and media competency

In the digital age, the professional development of teachers has expanded beyond traditional workshops to contain continuous learning opportunities that provided by technology. One of the most effective tools in this regard are blogs that serve as a platform for teachers to think about their experiences, share best practices and to have significant discussions with colleagues. Blogs promote lifelong learning by encouraging educators to deal with new teaching methods, emerging technologies and innovative educational approaches (Waeber et al., 2023). Lifelong learning refers to the constant, voluntary, and self-motivated pursuit of knowledge for personal and professional improvement. It is particularly important for teachers in the field of education, since they can adapt to the development of educational approaches, technological progress and various class needs (OECD, 2021). In contrast to the individual training meetings, which have a limited long-term effect (Brown, 2004), blogs offer a space for continuous reflection and construction of knowledge, so that the teachers can visit their learning again, pursue progress and refine their educational strategies over time. This current process is matched by the principles of self-directed learning, in which the educators take responsibility for their own professional growth by looking for relevant knowledge and enhancing reflective practice (Merriam & Bierema, 2014). Moreover, blogs contribute to the media competence, an essential competence for modern educators. In today's digital age, teachers have to control an abundance of online resources, critically evaluate the credibility of digital content and create learning experiences that are rich in the media for their students. Blogs enable teachers to develop these skills by forcing them to deal with digital tools, organise and synthesise information and create original educational content. According to Hobbs (2010), media competency is not only to consume digital content, but also actively participate in the creation and spread of information. By maintaining a blog, teachers develop their skills to

effectively communicate in online environments, to integrate multimedia elements into their lessons.

Furthermore, blogs enable participation in professional learning communities in which teachers can work together beyond geographical and institutional borders. These communities create opportunities for feedback, discussion and problem solving that are essential components of collaborative professional development (Luo, Freeman & Stefaniak, 2020). Engaging teachers with other, can provide an opportunity to exchange ideas, receive support and remain updated about the latest educational trends. This type of interactive learning reflects Fullan and Hargreaves's (1996) concept of "interactive professionalism", which underlines the importance of dialogue and cooperation between educators and institutions. In this way, blogs transform the professional development of an isolated activity into a dynamic and socially associated process.

**Reflection in blogs:
A path to continuous professional growth**

Being able to reflect is considered crucial for ambitious, innovative teachers individually and for the community of teaching more broadly. For the aspirational teaching professional, it is likely that consistent reflection on the learning process is very significant for primary skills of pedagogy and subsequent professional development (Korthagen & Vasalos, 2005). For the community of teaching at large, the distinguished reflection skills are regarded as fundamental components for making and leading changes and reforms in educational institutions (Fullan, 2007). Luehmann (2008) examines in-depth a case study of an urban middle school science teacher who kept blogging her teaching experiences. The aim of the Luehmann's study was to discuss the use of blogs as a powerful platform of reflection in mature learners. The author argued that the teacher found that blogging is a great instrument to advance her professional identity, reflect on her classroom teaching practice, solicit others feedback, and to elaborate about issues connected to the educational context of her local environment. Moreover, Ray and Coulter (2008) attempt to define the depth and extent of reflection among a teachers community. The authors examine the blogs of language and art teachers and they found that the reflective blogs were the most popular. Most of teachers' blogging revealed critical trends toward teaching practices. Critical reflection is another function of using weblogs which can be seen as the largest driver of teacher's interaction through this online platform. Liou (2001) emphasises that the sustained way of raising teachers awareness is through critical reflection on their own teaching practice and it would generate affirmative changes. Critical reflection encourages the

effective interaction of teachers in a professional framework by inspiring teachers to take their position. This position can be taken through enquiring and challenging others' implicit assumptions in a way that can improve their teaching practice (Burnett & Lingam, 2007).

**Blogs and communities of practice:
Building collaborative learning networks**

Kennedy (2005) identifies the community of practice as one of the professional development modules vital to pedagogical advancement. The definitions of community of practice are diverse and depend on three dimensions: what the community is about, how it works and what capability it has produced. However, a community of practice can be defined as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger-Trayner & Wenger-Trayner, 2015, p. 2). Wenger-Trayner and Wenger-Trayner (2015) also maintain that, in a community of practice, the consideration of all members' contribution is highly regarded as a success for this community. The community of practice nature, its objectives and its communicative techniques are decided by all members in a manner that permits development and constant changes. Consequently, community of practice is perceived as a powerful platform for individuals to share knowledge and place information according to their needs and desire.

Furthermore, community of practice inspires all members to be responsible for sharing information and solving problems. In this context, learning is considered as a path in which each member can transfer from legitimate peripheral participant to primary participant in the community of practice (Lave & Wenger, 1991). For a teachers' virtual community, they can blog to raise inquiries, encourage each other to enrich a discussion, share perspectives and express their feelings and opinions. Weblog can permit learners to collaborate virtually and synchronously. What distinguishes weblogs from other websites is the feature of allowing people who share a common interest to regulate their main objectives and principles (Richardson, 2005). A blog can be regarded as a small learning community working together towards a shared goal. Blog members can become highly involved in projects, to a greater extent than is the case with other educational and online environments. This creates a sense of community (Efimova & Fiedler, 2003). Nevertheless, Zhou (2011) argues that numerous studies have shown that factors such as perceived usefulness, engagement, trust, self-efficacy and outcome expectation are significantly related to online community user participation and knowledge contribution. He argues that prior studies only focused on the motivations affecting user partic-

ipation. By contrast, his study found that participation in online communities is influenced by compliance, identification and internalisation.

Compliance is the influence of others (social pressures). Identification refers to individual sense of belonging and membership. Internalisation refers to the congruence between the individual and the group as a whole. It is apparent that a successful community of learners emerges when each is an active participant. A community of practice emerges when the technological environment operates as an effective platform for individuals to exchange information, knowledge and skills, and to provide learning opportunities that satisfy needs. This environment encourages groupwork and knowledge-sharing, as well as development of personal identities and expert-learners. It encourages group membership (Yang, 2009).

Zeichner and Liston (1996) describe the community as an opportunity for teachers to examine and problem-solve teaching issues, focus on beliefs and take responsibility for their own development. Elaborating further, Stiler and Philleo (2003) explore the use of blogs for reflective practice amongst pre-service teachers who were consulted in a survey. Reflection through blogs is argued to empower teachers to give and receive rapid feedback from peers, and this process helps with problem-solving. Teachers are encouraged to consider critical reflection and apply it to their classroom practice. It is clear that blogs have been well-received and offer an interesting opportunity within the learning environments that teachers work in. However, blogs need careful consideration and planning in order for learning goals to be achieved. There is a need to acknowledge the limitations of the medium and the importance of risk management (McLoughlin & Lee, 2007). More broadly the emergence of communities of practice are based around the belief that communication, active participation and peer-exchange are important elements to professional development of teachers (Chalmers & Keown, 2006).

Methodology

The purpose of the present study is to explore the professional development opportunities that blogs can provide and to find out teacher bloggers' views on the usefulness of blogs for professional development. The methods described in this section were carefully selected to provide an exploration of valid and reliable data and to ensure that they can effectively answer the following research questions:

1. What opportunities for professional development are experienced by teachers who use blogging in their professional lives?
2. How do teachers perceive the usefulness of weblogs for the purpose of professional development?

The present study is an exploratory study that uses qualitative data collection (e.g. Kiely & Rea-Dickins, 2005) within the interpretive framework. The aim of the study is to explore how weblogs are seen as a useful tool for teachers' professional development. From the analysis of the above research questions, it is clear that the phenomena under investigation align well with the chosen methodology. Researchers such as Creswell (2009) believe that exploratory qualitative methods are most appropriate for exploring teachers' perspectives. More generally, exploratory research is considered the most appropriate method for studies that focus on investigating a general phenomenon or situation through qualitative interviews (Creswell, 2009).

Research method and design

This study used a purposive sample technique (Patton, 2015) to identify teacher bloggers who actively participate in blogs for professional development. To investigate their experience and insight, a qualitative research was adopted, using semi-structured interviews (Creswell, 2009; Fontana & Frey, 1994). Qualitative research is appropriate for exploration and understanding of meaning of certain phenomena and examining social experience in a naturalistic setting (Richards, 2003).

This study involves a small number of participants, and the online semi-structured interview is selected as a data collection tool to allow the respondents to think impartially about their beliefs and ideas without the interference that can be caused by face-to-face interaction. In doing so it is hoped that social responding bias will be reduced or eliminated. Meho (2006) claims that using email interview to collecting data can decrease, if not terminate the associated problems with face-to-face or telephone interviews. In addition, the interviews by email indicate a written answer that improves the accuracy of the data and reduces transcription errors (Jowett et al., 2011).

Email interviews were chosen for this study because of their practical advantages and their fit with the research context. Although other methods such as face-to-face interviews or video interviews could have been used, email interviews reduced logistical constraints by allowing teachers to participate from different locations without affecting their professional commitments (Cohen et al., 2018). While questionnaires are commonly used as a data collection method, they were not employed in this study because they restrict participants' ability to elaborate on their thoughts, thus limiting the depth of the responses (Bryman, 2016). Given the paucity of research on academic blogging, it is necessary to obtain a detailed understanding in order to address the research questions. The semi-structured interview contains questions supported by some probes to give more clarification of target concepts and themes (Richards, 2003). In light of the above, it must be

said that teachers generally find speaking during interviewing more comfortable than writing (Best & Khan, 1989). However, for the nature of this study, e-mail interviews are used as a method for collecting data because participants were regionally disparate and there was no funding available to facilitate travel. It is important to note that some of the potential drawbacks of e-mail interviewing can take place. For example, e-mail interviewing may take many days or weeks before an interview is complete; due to its nature, in depth information is not always simply attainable; it does not permit immediate probing; and it requires that interview questions be more understandable than those posed face-to-face or by telephone, to prevent misinterpretation and miscommunication (Meho, 2006).

An overview of the participants in this study

A total of 15 bloggers were first approached accordance with their presence in the communities of educational blogs, but only six replied and agreed to participate. As their profiles show, they work in different educational contexts. Two of them (male teachers) are English teachers (one of them is a PhD student and the other is an educational technology consultant, writer and trainer). Three of the females are lecturers and the fourth is a primary school teacher with two years' experience of blogging.

Since the goal was to examine the role of blogs in professional development in several educational contexts, the selection did not focus on a certain teaching level. Blogs are an integrative digital practice in which teachers from all areas communicate and share thoughts. It is therefore not necessary to limit the study to a certain teaching level (Davis et al., 2018). In addition, the study did not collect any information about participating countries, since the focus was on current experience in digital professional growth and not on national or regional differences (Stewart, 2013). Blogs as a learning tool go through geographical limits and promote the global exchange of knowledge and reflexive practice (Luo et al., 2020). Despite the fact that nine people did not respond, no other recruitment was sought because the thematic saturation with the six answers was preserved, which guaranteed significant qualitative information (Guest et al., 2006).

Furthermore, the study followed strict ethical criteria to safeguard the well-being of participants and ensure the protection of their rights. Participants were informed of the purpose of the study, their ability to withdraw, and the confidentiality of their information. Consent was obtained via email and pseudonyms were used to protect identities, particularly in light of the potential negative consequences of teachers expressing critical opinions (Tracy, 2020). Although future research could examine regional or specific influences at the level, this study focused on similarities in the ways teachers use blogs for professional growth (Downes, 2019).

Data analysis

Once the raw data had been obtained, the researcher started an iterative reading process to get an extensive understanding of the content. This initial phase provided more in the deep understanding of the data before carrying out a systematic analysis. The data was then coded using the MAXQDA qualitative analysis program, which made it easier to identify and categorise new topics (Creswell, 2009). The data files were then integrated into the software for an additional check, which led to a systematic and strict analytical process. The selected topics were methodically grouped and archived for a detailed examination and interpretation.

In line with Guba and Lincoln's (1989) emphasis achieving trustworthiness in qualitative research, I took steps to improve the quality of my data and analysis. To meet the authenticity requirements (Guba & Lincoln, 1989; Schwandt, 2001), I worked to maintain credibility, transferability, reliability, and confirmability. The following sections describe the steps taken to strengthen these four criteria.

To increase credibility, I used member checking, which allowed participants to evaluate their interview responses via email and provide clarifications or new information, thus confirming the accuracy of their opinions (Birt et al., 2016). Because email interviews naturally result in a written record, participants were able to check their statements in real time, reducing the risk of misinterpretation and increasing the credibility of the results.

To ensure transferability, theoretical sampling, context descriptions, and levels of abstraction of ideas are crucial elements (Guba & Lincoln, 1989). The teachers sample of this study is comparable to others in other educational settings transcend geographical boundaries, thus enabling global information sharing and reflective practice in digital professional development (Stewart, 2013). Many of the themes and concepts discovered are broad enough to be applied in different contexts.

To support confirmability, I used member checking to reduce researcher bias, relied mainly on participants' statements. In addition, I was aware of my role as a participant observer and conduct inquiries in an unbiased, non-judgmental approach, accepting participants' positive and negative viewpoints equally.

Schwandt (2001) defines dependability as the assurance that the research process is rational, comprehensible, and well documented and which this methodology exactly aims to achieve. To validate the results, member checking was primarily used, which benefited from the diversity of participants.

The study used the qualitative analysis software MAXQDA to maintain a transparent and replicable analysis procedure, which increased the credibility and reliability of the results.

Findings

The findings are organised in relation to the two research questions of the study:

1. What opportunities for professional development are experienced by teachers who use blogging in their professional lives?
2. How do teachers perceive the usefulness of weblogs for the purpose of professional development?

Professional development opportunities offered by blogging

In order to recognise how blogging can contribute to teachers' professional development, several interview questions that relate to the overall notion of professional development as experienced by bloggers need to be answered. These questions relate to the opportunity of reaching educators, the opportunities of reading and reflecting on others' blogs and changing teaching strategies accordingly.

Connecting teachers and others worldwide

All the six participants in this study expressed that their target audience are educators, teachers, and academics. For example, Sam was specific his target are English teachers. He said "*my blog aims to help teachers of English [to] make pedagogically appropriate use of new technologies.*" More interestingly, the participant named John is the only one who has a wider range of audience than the other participants. His targeted audience, as he mentioned, are teachers, educators, students, parents, school leaders, principals, supervisors, and curriculum designers. Remarkably, John and Mona are the only two bloggers who include students in their targeted audience. It is apparent that bloggers are very aware of their audience and these audiences are professionals in their fields where bloggers can have peer feedback. However, it is interesting that some of these audiences are students. It is possible that these teachers prefer to see learners' online comments rather than feedback from the actual audience (students), where the teaching takes place.

Critical reflection

Most of the participants in the study agreed that blogging and commenting on others' blog is a great way to help teachers to explore their teaching experiences and learn from each other. For example, one of the interviewees' responses represents the other participants when he mentioned that

[t]hey can use blogs to reflect on and develop their teaching practice and by sharing these reflections get feedback and interaction from peers through the comments. The act of formulating and making your reflections, opinions, public can also be very useful for focusing your attention and pushing you to publically commit.

Another blogger teacher (Mona) said that “blogging is a very good way to help teachers to look back at their progress, practices and learn from each other.” Thus, John emphasised Mona’s opinion in this regard; he affirmed that:

Blogging can be a great tool for such kind of reflection. The concept of blogging is related to the concept of journaling when blogs first emerged they played the role of journals. In this sense, keeping a daily journal where teachers write about their teaching practices, what worked and did not work will help them in the long run reflect about these practices with a view to improve them.

On the other hand, the participant Linda has different views. Although she mentioned that her class blog is linked with other classes in junior school, and some other classes in different schools across the learning zone, she claimed that she would not see this feature of blog beneficial in her context because of the different developmental stages in different classes and accordingly the different needs.

Reading others' blogs

All participants in this study except teacher Linda, expressed their perceptions quite clearly about the great opportunity of reading other posts that are offered by blogs and how effective they are for the sake of professional development. Mona, for example, confirmed this by saying “Yes definitely, I found my way into blogging through other active and inspirational bloggers, it’s a very helpful source of information and I learn a lot from other people’s experiences, which impacts positively in my own professional development.” In this regard, John goes along with Mona’s view when mentioning that one of the ways blogging helps his professional development is through reading others’ blogs. Through such readings, new ideas and insights, new learning avenues, can be discovered and sometimes new educational web tools can be shared with his readers. He said, “through reading others’ blogs I get to make connections with bloggers and expand my personal/professional learning network and exposed to new ideas and insights”. However, Linda justified why she did not read other blogs. She had not enough time to do this as she had a lot of duties and commitments.

Exchanging and sharing teaching strategies

All participants agreed that blogs and keeping blogging among teachers is a valuable communicational way to exchange and share insights related to teaching strategies. One of these teachers explained her opinion by saying: “the reflective nature of blogging coupled with the conversations in comments makes blogs ideal for exchanging teaching strategies”. Laura, confirms that blogs are a great technology; she elaborated, “prior to 2007 I was sharing what I was learning via podcasts and wikis. By the beginning of 2007 I realised that while podcasts and wikis allowed me to share information, they don’t provide me the mechanism to reflect on what I was learning or interact with others to help my learning.”

Effectiveness of weblog for professional development of teachers

In this section, five sub-themes about how teachers perceive the effectiveness of blogging for the purpose of teachers’ professional development will be discussed. These sub-themes are: the effect of blogging on teaching practice, the importance of blogging for professional development, teachers’ motivation to use blogs for professional development, required technology skills for using blog and the role of school management to support teachers’ use of blogs.

The effect of blogging on teaching practice

From the collected data, four out of six teachers strongly believe that blogging affected their teaching practice positively. They mentioned that they could share their own experience and share ideas on how to deal with classroom issues. One of them (John) expressed that:

yes blogging does have a strong bearing on my teaching practice. For instance a few years ago I read a blog post about a teacher who was able to hold a Skype video conference with an author. In this virtual conference students were introduced to the author and were encouraged to ask him different questions related to the work they studied in class. I like this idea and used it myself with my students in class. I invited some native speakers of French to chat with my students on Skype.

Sam also maintained that weblogs have great potential to impact his teaching experience, which encourages him to come up with new ideas and explore new technological tools that can be used in the classroom. On the other hand, one of the other two teachers claimed that she could not answer the question as her blog is not based in a classroom. Whereas, the other said that she believes the

blog is time-consuming and takes a long time to maintain, edit, add clips, and requires very careful moderation before publishing. When she uses a blog with year 2 children (6-7 years old) she found it to reduce the teaching input. It is worth mentioning here that some of the participants illuminated that it does not apply to them as it is not based in a classroom.

The importance of blogging for professional development

With regard to the participants' views about the importance of blogging for the purpose of professional development, five of the teachers agreed that weblog is one of the most important factors. One participant, for example, expressed his opinion by saying:

Blogging is an important part of my professional development. When you write and reflect on what you are learning, it forces you to think more deeply on the information you want to share. The very nature of explaining the information in a manner that others will understand also forces you to learn more about the topic. Numerous studies have now shown that when we write to a global audience we learn more and write better for these types of reasons.

Another teacher also mentioned that blogging was behind her personal growth because it is a very valuable source for sharing knowledge and experience. One more respondent commented: "I truly like the idea of bringing blogging into each classroom. This actually in the nearest coming time this becomes a necessity." However, Linda, who is a primary school teacher, did not believe that weblogs can help teachers in their professional growth. Interestingly, she gave a reason for her claim that blogs do not appear in Google searches when searching educational materials. She assumed that many alternative technological platforms would do the job effectively.

Teachers' motivation to use blogs for professional development

When teachers are asked the following question: do you think that teachers should be motivated to use blog? The majority of them admitted that motivation is a fundamental factor to enhancing teachers to use technology in general and electronic blog in particular. For example, the teacher John responded: "yes I do believe that every teacher should embark in a way or another on educational blogging experience. I would recommend that they start reading different blogs and learn how others go about managing their blogs both content and time wise before they set up their blogs". Moreover, Sam recommended that motivating teachers by giving

them basic training would help teachers to be an effective bloggers. On the other hand, the teacher Linda stated that teachers should not be motivated to use blogs. She justified her statement by claiming “teachers have too many pressures and new initiatives thrown at them all the time and never given enough time to learn about each one and digest the knowledge before putting it into practice”. It is worth noting that Linda is the only primary school teacher among the participants and her school duties may affect her responses to the particular interview questions. Nevertheless, it is apparent that there are individual differences in enthusiasm and the perceived usefulness of blogs.

Required technology skills for using blogs

With respect to the required technology skills for using blog, 5 teachers responded that blogs do not require any advanced skills for establishing weblogs. Laura mentioned that some basic skills are beneficial to manage a blog, but generally blogging is very simple and some teachers can create weblog with a very minimal level of IT skills. Another teacher confirmed this congruence. He clarified a misapprehension among teacher regarding using blogs and suggested Blogger and Wordpress as two examples, he said:

Most of the blogging platforms such as Blogger and Wordpress are easy to use and do not require any advanced technology knowledge. However, there is a widespread misconception among teachers that to blog you need to be a tech wizard which is just an excuse from not integrating blogging as an educational tool in class.

The role of school management to support teachers' use of blog

As far as the role of school administration to support using blog among their teachers is concerned, four teachers expressed that school support is a crucial part of any technology integration within school curriculum. One teacher mentioned that school management should supply more training and promote using blogs for teachers and staff. Another teacher said:

One of the obstacles to an effective use of technology in classrooms is the school administration. Most often, administrators belong to the old generation that grew up in a tech-free environment and they think that technology is a disruptive element in school. Unless we have a cooperative and collaborative mindset from school leaders and principals, the gap between teachers' use of technology outside and inside school will not be bridged. School administrative staff should be more cooperative and understandable of the need for integrating not only blogging but all other kinds of technology-infused activities in classroom. One way to do this through sanctioning blogging platforms like Blogger in schools.

Mona shares her thought that using blog is a personal preference and believes that teachers who are interested in blogging will find many platforms to use to satisfy their requirements. However, the primary school teacher Linda claimed that blogs take a long time and there are many easier and quicker routes available for teachers to access and share information and resources online. In short, she does not recommend school administration to support using blogs for teachers.

Discussion

Two broad themes from the analysis of the data will be summarised and discussed: (1) blogging and opportunities for professional development, (2) effectiveness of weblog and professional development.

Blogging and opportunities for professional development

This section discusses findings relevant to the first research question, which aimed to explore the professional development opportunities that blogging can offer, summary of the findings of theme (1) and its subcategories. The participants in this study articulated quite clearly from their experience the valuable opportunities from blogging that can enhance their professional development. Teacher bloggers (participants) also talked about critical reflection as one of the opportunities that blogs can offer. The majority of the teacher bloggers agreed that blogs could provide them with the chance to reflect on others' posts. Reading and exchanging teaching strategies were another two opportunities that blogs can deliver to bloggers which were common views amongst interviewees.

Critical reflection

With regards to critical reflection, most of the teachers confirmed that blogging is a powerful tool that allows them to reflect on other's posts. It is interesting to note that their responses reflect their ample awareness of how technology can be used effectively to serve people in general and teachers in particular. Since critical reflection is considered as a significant part of professional development components, as affirmed by Jacquard (2013), it can be seen from the responses that most of the participants indicated that blogging is an integral part of the professional development to facilitate challenging others' ideas and reflect on them in a collaborative way. They also believed that using blogs allows them to reflect on and improve their teaching practice by interacting with their peers and share comments. Such findings associate with what Yang (2009) highlights that the use

of blogs as a platform for reflection to make comments and challenge each other's viewpoints improves one's practice.

Whilst most of interviewees' recognised the significance of critical reflection, only one participant (Linda) claimed that she would not see the critical reflection feature of blog as that rewarding. She thought that bloggers may be at different developmental stages and her personal needs may not be the priority for the group she is engaging with. It is somewhat surprising that Linda was noted in this study as not seeing critical reflection as worthwhile. It is difficult to explain this result, but this might be related to some teachers' misconceptions (Boud & Walker, 1998) about the value of 'reflection' and having negative effects of reflection that can stop them from learning reflection skills. Reflective practice not only creates change, but also delivers information needed to improve strategies for setting new plans, needs, and goals.

These results evidenced by Sockman and Sharma (2008) statement made in the literature on how through peer feedback, reflective journal writing, and reading, teachers could identify the barriers and discover how their teaching principles need to develop in order to apply transformative teaching strategies.

Reading others' blog posts

Most of the participants agreed upon the effectiveness of reading others' posts that are offered by blogs for the purpose of professional development. Such findings are consistent with those of Hines (2008), who confirms that blogs are an influential innovative arena for professional growth which accordingly can offer both comments and providing community of reading and writing. Reading other bloggers' posts helps with self-directed learning (Robertson, 2011; Winer, 2003). In this case, readers can set up their own learning goals and find gaps in their learning process. Indeed, the massive affordance of blogs that allow them to embrace a wide range of topics make them a unique tool for learning. However, self-directed learning remains open for public scrutiny and support by offering the benefit of community authentication (Efimova & Fiedler, 2003).

Exchanging and sharing ideas related to teaching strategies and practices

It is encouraging to see that the most frequently mentioned 'feature' of blogs among teachers as an appreciated communicational way is to 'exchange and share ideas' related to teaching strategies. It is apparent from participants' responses that blogs happen to be a valuable tool for teachers to create a positive and nurturing discussion platform generated from other teachers' posts that develops their reflection which can be implemented in classrooms, as previously noted by Storch (2005).

The author of this study reviewed the bloggers' posts and contributions. It was apparent that the content included many strategies and supportive advice on using technology in teaching that could be helpful to the profession of teachers. Having discussed this, however, rich resources, educational videos, hyperlinks, and useful clips can be found elsewhere in the internet and weblogs by itself cannot provide teachers with professional development opportunities unless bloggers use this tool effectively.

If teachers need to use weblog for the purpose of developing knowledge, some points need to be taken into account. For example, rich and relevant posts from teachers' daily experience in their classrooms are supported by Goldman (2001), sustained and regular visits and contributions, engagement with other teachers experience and creating new knowledge and understanding, questioning and debating their peers posts, building a community of educationalist, value and respect other bloggers' perspectives and bringing the more relevant ideas to teaching practice. Moreover, a deeper conversation (Lavonen et al., 2006) including negotiation and innovation can make an effective experience happen that benefits professionals. Teachers need to invest considerable time, energy and sustained effort into their blogging (Luehmann, 2008) and employ certain blogging features.

Effectiveness of weblog for professional development

This section discusses findings relevant to the second research question, which aimed to seek the teacher-bloggers' perception about the usefulness of blogs for the sake of professional development. It is divided into five sub-sections. These are: professional development, the empowerment to enhance teachers' professional development, the required technology skills for using blogs, the role of school administration and barriers within schools.

Professional development

The findings related to this theme reveal that there is a significant positive association between using blogs and teacher development and professionalism as affirmed by the respondents. For example, Amy argued that "blogging is an important part of my professional development. When you write and reflect on what you are learning, it forces you to think more deeply on the information you want to share."

Mona, also confirmed this by mentioning, "I definitely believe blogging is a very valuable source for sharing knowledge, experience, and professional development, and personal growth."

Nonetheless, one teacher gave different views about whether blogs can be a useful tool for teacher development. She opposed the others and claimed that teachers could find other effective tools to fulfil this purpose. She justified her claim saying that one of the blogs' disadvantages is that they cannot be found by Google search engine. She answered the question (Does blogging help teachers in their career/professional development as teachers?) saying "no, but it could if it had a higher profile. E.g. blogs don't appear in Google searches when researching something educational".

It is, however, especially interesting to note such findings from the same participant. A possible explanation of this teacher's claim may refer to the lack of adequate knowledge and sufficient experience of using blogs. Undeniably, so-called "digital literacy" is seen to be a crucial capability for ongoing professional life – some of the "skills needed to survive and thrive in a complex and connected world" (Trilling & Fadel, 2009). This explanation emphasised the need of continuing teacher training. Another possibility is that "work pressure" and "time constraints" can be barriers preventing the use of blogging and ease of blog access (Selwyn, 2011). Such factors could lead her not to see the benefit of blogging and drive her to claim that the use of blog is ineffective for teachers' development. One must accept that certain individuals will be more enthusiastic towards blogging than others for a variety of reasons. With all of that, it is worth commenting here that most teachers viewed blogs as a useful and beneficial instrument to enhance their development and professional growth. The interviewees' perceptions of the usefulness of the blogs declared that this technology has the positive potentials of improving teachers' knowledge and understanding of different aspects, through providing them a range of educational and pedagogical benefits. The mostly encouraging teachers' views towards the usefulness of the blogs on cultivating teachers' development is due to the opportunities that the tool facilitated, as discussed earlier in the previous theme, such as reflection and exchanging ideas in collaborative environment unlike traditional teachers professional development workshops where a discussion can be driven by a trainer and few teachers. Blogs can build a wide community of teachers (Yang, 2009) where various voices can be heard. Even the teachers who might be shy or unconfident of talking and discussing in front of others, or those who find difficulty to respond quickly or need more time to reveal their feelings are free to share and express their deliberations at their leisure.

The empowerment of blogs to enhance teachers professional development

The findings of this study suggest that one of the main motives for the teachers to use blogs is to improve their professional practice. Blogs and other equivalent

Web 2.0 technologies have the potential to enhance teachers' professional development (Hines, 2008). The interaction that blogs can facilitate is considered as one of learning essential factors. Participants expressed motivation to learn and experience a new technology compared to traditional learning. Interaction functions affect motivation for sharing thoughts. When designed appropriately, blogs facilitate improving communication skills, enabling reflection and getting feedback, enhancing collaboration and clarification of misunderstanding.

All these powerful functions can be enabled by blogs as a considerable amount of the literature has clarified this. For example, Posner (2005) mentions that blogging provides teachers with promising lifelong learning and unique opportunities to learn from reflection on experience. Yang (2009) finds that blogs are considered as a beneficial tool for enabling reflection and communication that have the potential to empower pre-service teachers development and growth. Similarly, Waely and Aburezeq (2013) articulate that blogs provide pre-service teachers influential techniques for learning, help them to improve better understanding of their educational content, stimulate their community interactions and enhance their learning and critical thinking skills. These observations are similar to the responses of the teachers from the present study.

The required technology skills for using blogs

For this sub-theme, it is noticeable that most of the teachers agreed that a blog is a very simple tool to use. They mentioned that there are no required advanced skills that need to be mastered in order to use blogs. The participants' confirmation that blogs do not need high level of IT skills is supported by Yang (2009), who states that anyone who can construct a simple Microsoft Word document could build and maintain a blog. However, teachers' misconception about maintaining a blog that you need to be a professional in technology prevents them from using this tool. This misconception was conveyed by one of the interviewees, as she upheld that blogs are very complex sites and it is hard to maintain them. She argued, "these sites are very complicated to set up accounts, add security, log in, passwords, moderation, hard to change themes...". In her case, she expressed concerns of other teachers' who reject technology and development and do not want to step out of their comfort zone. However, it must be accepted that using technology needs knowledgeable, confident and enthusiastic people to use applications effectively and for the precise purpose to be achieved without erosion of quality.

Moreover, appropriate planning and good preparation from teachers side and school administration (which will be discussed in the following section) are important factors to the successful use of technology. This recommendation has

been highlighted previously by Shamoail (2005). Basic technology skills help bloggers to gain the maximum out of this technology to enhance their professional development. Nevertheless, it cannot be assumed that all teachers will possess the appropriate levels of IT literacy and confidence to engage with new technologies.

The role of school administration

School administration has a substantial role to support using blogs as part of their professional growth as emerged in the above discussion. In this sense, it is worth discussing the sub-theme (The role of school management to support teachers' use of blog) in more details in this section. It was clear in some teachers' responses that they perceive the role of school leaders and stakeholders as a crucial part of technology integration within their school environment, including utilising blogs among teachers. Their roles are ranging from providing support to sustaining training for teachers, as some of the participants stated. One participant stressed that international schools generally have the strongest support for integration technology as most have their own team of technology integration specialists. He said:

When schools take a school wide approach which is supported, and modelled by both their admin and their educators, you see a strong school-wide adoption and good integration of technology. Generally those schools that don't have a school wide approach tend to have isolated pockets of teachers doing amazing stuff but it is done on a class by class basis.

Thus, if schools want to attain school wide adoption and integration, they need to provide the platform and an integration team to ensure it is used efficiently and successfully in terms of pedagogy.

Barriers within schools

One major tenet of effectiveness of weblog and professional development as an emergent sub-theme is "barriers within schools". Using blogs has great potential to convey teachers' interactions and maintain their learning. In the present study, some of the participants referred to some barriers that prevent the implementation of blogs as a platform for their teachers' interactions and development. These barriers include, as said by the participant John, "some administrators belong to the old generation that grew up in a tech-free environment and they think that technology is a disruptive element in school".

Unfortunately, while all this technology helps us to be more connected to family, friends, and to professional bodies in the same field, some school administrators tend to isolate or exclude themselves, probably due to the lack of administrative

awareness of the promising benefits of using technology. Raising the awareness of technology and the right motivation can overcome their doubts or anxiety about adopting new technology in their schools and social life alike. From the teachers' perspective, workload is another often-cited barrier as expressed by one of the respondents. Her perspective was that the extra load of work at her school frustrates her from keeping blogging and seeing the benefits of blogs. This finding was also expressed by pre-service teachers in Waely and Aburezeq (2013) study. From my point view, cultural challenge can be another dilemma. Some school leaders and teachers may not accept or even find it hard to change their school culture when trying to adopt any of digital tools. It may require significant effort to gather enthusiasm from colleagues.

To summarise, the above findings suggest that teacher bloggers' views indicated positive attitudes toward blogging in education that enhances their professional development. However, as the findings above suggest, the construction of participants' views on the role of weblogs was substantial in shaping their views of their professional development. To add, the most obvious finding to emerge from this study is that blogs have the greatest opportunities to enhance teachers' lifelong learning and development (Posner, 2005). However, some barriers that prevent some participants from considering the usefulness of blogs have emerged through this research, which needs substantial attention by teachers and school leaders alike. Some recommendations and implications will be discussed in the following section. Finally, the findings also indicate that these views correspond to a large degree to findings conducted elsewhere (Deng & Yuen, 2011; Hines, 2008). This is encouraging since it demonstrates internal validity of the present study, despite the novel email-based interview methods.

Recommendations and Conclusions

The potential of using digital technology in education has provided teachers with flexibility in their communication choices and an opportunity to learn and develop their knowledge. On the basis of the literature review and the interview responses of participants, it is apparent that blogs have a wide-ranging function in a diverse set of educational contexts. Although most of the previous studies have focused on the benefits of blogging for student learning outcome (Coutinho, 2007; Reupert & Dalgarno, 2011), the present study highlights that some teachers find blogs value for inter-professional communicative exchange. Essentially, blogs provide an easy method of exchanging views on best practice, reflecting on personal pedagogy matters and reaching out to colleagues for support/advice.

Blogs provide a platform which is flexible and facilitates social networking. The interactive nature of blogs allows teachers to interact with their peers, share experiences, raise questions and access different resources. In addition, it can be observed that blogs promote lifelong learning by enabling teachers to stay informed of evolving educational trends, engaging them in reflective practices, and adapt to new pedagogical approaches over time (Krol, 2016). Blogs also can promote media competency and provide teachers with the ability to critically analyse, develop, and successfully use digital in their professional practice (Redecker & Punie, 2017). Blogging has been recognised as one of the valuable new technologies that offer teachers great opportunities for their professional development, as affirmed by Luehmann (2008).

However, there is a need for further understanding of using blogs for personal learning and professional development (Tan, 2009). The present study was designed to determine the perceived usefulness of blogs for the purpose of teacher professional growth. It achieved this by examining six blogger teachers' perceptions using an online email semi-structured interview. One of the most significant findings to emerge from this study is that the participants expressed a very optimistic perspective that blogging has a great potential in their learning and development. It must be accepted that the present case-study is based on a small sample of participants from diverse educational backgrounds. Individual differences in enthusiasm for blogs, as expressed notably by Linda, require further exploration and elaboration with a larger sample of teachers. There is also a need for different types of research investigation in this field.

Although the current study is based on a small sample of participants, the findings suggest a number of recommendations that need to be considered so that the positive outcomes of using blogs for the purpose of teachers professional development can be achieved. Firstly, teachers should be provided with training programmes to raise their awareness of the appropriate use of blogs as suggested by participants. This should form part of basis teacher training as it fosters a belief in student teachers that using technology is normative practice that can be carried forward during their careers. Secondly, educational administrators should motivate and inspire teachers to use blogs as a tool to develop their lifelong learning. Waely and Aburezeq (2013) emphasise that instructors play an important role in motivating and campaigning for technology incorporation within educational settings. So a combination of technology-aware teachers and motivated stakeholders of technology would help to use blogs effectively. Thirdly, teachers should familiarise themselves with new applications of technology and should be given opportunities to collaborate together on technology projects and practices. This requires time and financial support.

Finally, the challenges of using blogs need to be considered. Teachers may not endorse the usefulness of blogging for various reasons such as the workload and the lack of sufficient time to blog. Tackling such challenges will motivate teachers to use technology including blogs easily and effectively. The present case-study has gone some way towards enhancing our understanding of how effective use of blog can enhance teachers growth. However, further research is recommended to provide a more comprehensive understanding of the core issues surrounding this topic.

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