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UNDERSTANDING THE DIMENSIONS OF IDENTITIES AND ITS IMPACT UPON MEMBER'S PARTICIPATION IN AN ONLINE COMMUNITY OF PRACTICE

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ABSTRACT

Aim/Purpose	The study aims to explore the dimensions of identities in relation to an online community of practice (CoP) and how the dimensions of identities influence the way teachers behave on their online CoP.
Background	One of the emerging approaches for teachers' professional development is through a form of community of practice, through which teachers learn through collaboration and active learning. In line with the progression in technology, online communities of practice have been widely accepted as one of the possible approaches for teacher professional development that can enhance the opportunity for collaboration. Even though online CoPs provide a better platform for collaboration and sharing best practices among teachers, some issues lead to a failure of any online CoPs. Day, Sammons, Stobart, Kington, & Gu (2007) stress the importance of understanding the aspects of identities and their impact on how teachers perform and commit to any activities and that an understanding of teachers' identities is central to any analysis of teachers' effectiveness, work, and lives. Previous research, however, studied the aspects of identities in the perspectives of the development of their identities as teachers in the context of their daily interaction with significant others in face-to-face mode. However, there has been very little research that has focused on teachers' identities in relation to their participation in online communities. The extent to which their identities influenced the way they interact, engage, and contribute to their online CoP is still debatable, although it was profoundly stated that identities play a great role in shaping teachers' behavior in their offline CoPs. Taking this into account, this study aims to identify the dimensions of identities in an online CoP setting and how these identities influence their capacity to involve themselves in online sharing through communities of practice (CoPs).

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Understanding the Dimensions of Identities

Methodology	This research employed a case study approach which involved 16 teachers from six high performing secondary schools. The selection of the participants was made through purposive sampling. Data was generated through in-depth one-to-one interviews. Data analysis was conducted using thematic analysis through which the emerging themes were carefully identified.
Contribution	The study has successfully identified the dimensions of identities in relation to teachers' participation in an online CoP, which adds to the current body of literature. The result of the study also illustrates how these dimensions of identities interrelated to each other that led to the teachers' level of participation in an online CoP. Having an in-depth understanding about identities also would provide a better understanding of why the members reacted the way they did and, and how the dimension of identities plays a role in this.
Findings	The result of the analysis indicates four main dimensions of identities, i.e., personal identities, professional identities, learner identities and member of the community's identities. These dimensions were found to influence each other. Overall, there are seven factors seen as 'immediate' causes leading to the final outcome (participation in online CoPs), i.e., beliefs in the benefits of informal sharing activities, perceived importance of online sharing activities, perceived role in community, willingness to initiate discussions, willingness to respond, acceptance towards others' comments, and beliefs in the benefits of online communities. Personal identities affected not only their jobs as teachers but also influenced their commitment towards their participation in the online CoPs in this project. Their prior knowledge and experience influenced teachers' perceived competency in using online sharing applications. Their prior experience also impacted the way they perceived the benefits of online activities (teachers' identities as learners) and their attitudes towards them. The findings indicate that different individuals had different sharing preferences, and the differences were partly driven by how they conceived of professional development as well as how they perceived themselves professionally.
Recommendations for Practitioners	This study also indicates that to ensure the success of any online professional development for teachers, it is essential to take into consideration the aspect of endorsement by senior management, e.g., principals or coordinators from a district or state level. It is also critical for stakeholders to understand the working culture of teachers and their conception of professional development to ensure any new policies is in line with teachers' identities.
Recommendations for Researchers	The analysis in this study was developed by exploring the reasons behind the teacher's behaviors. In the future, it will be more meaningful for new researchers to consider the dimensions of identities when they develop any online CoP.
Future Research	This study was conducted using a qualitative approach. The emerging dimensions of identities can be used by future researchers as a basis to do quantitative research that covers a larger sample size, through which a generalization can be made. A causal network that was developed in this study can be tested using inferential statistics.
Keywords	teachers' identities, online identities, dimensions of identities, online, community of practice

INTRODUCTION

The literature has shown that successful professional development is related to collaborative work among teachers who work together reflectively and with the aim of improving their practice (Harris & Jones, 2010; Khalid, 2014; Stoll & Louis, 2007; Villegas-Reimers, 2003; Wenger, McDermont, & Snyder, 2002). Teacher professional development should provide not only pedagogical-related issues (Souto-Manning, 2012) but also offers a platform for teachers to discuss their practices in classrooms (Khalid, Joyes, Ellison, & Daud., 2014; Taylor, 2017). Through this sharing approach, teachers can improve their teaching and learning skills (Lysaker & Thompson, 2013), build better understanding of their students (Parkison, 2009), and develop their professional identities (Khalid, 2015; Taylor, 2017).

Palincsar (1998) describes teachers' networks as communities of practice, which involve teachers coming together to improve their practice by joining reflection groups. Through teachers' networks, which Stoll and Louis (2007) term professional learning communities (PLCs), there is also the opportunity for professionals to learn new practices and to generate new knowledge (Harris & Jones, 2010). Wenger et al. (2002) explain the concept of CoP as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis" (p. 4).

The most crucial element in sharing through communities of practice (CoPs) is the assumption that the sharing activities involved will enable 'newcomers' (in the context of teachers' continuing professional development (CPD) teachers who are new to the teaching context) to gain knowledge and skills from 'old-timers' (more experienced teachers) through their interactions. As a result of these interactions, newcomers start to develop their expertise and gradually shift their participation from peripheral to more central, becoming the core group. This process of learning is termed 'legitimate peripheral participation' by Lave and Wenger (1991). Through engagement and interaction within a community, newcomers will become part of a community of practice.

Through involvement in CoPs, members can generate and share their tacit knowledge, that is, knowledge that is embedded in a specific context (Nonaka, 1994), and since sharing tacit knowledge is something that requires active interaction between individuals, CoPs are a suitable platform for this kind of interaction to occur successfully (Wenger et al., 2002). Wenger (1998) claimed that a CoP is not just a group, team, or network that consists of people with the same characteristics; it is a community in which mutual engagement among the members can be seen.

In a community where members have different backgrounds and experiences, it can be problematic for individual members to accept others into their 'circle of friends' because individuals may have their perceptions about their peers which then affect their engagement. Therefore, it is paramount that, in the early stages, members of any community build bonds and relationships between themselves so as to develop a 'friendly climate' (Glass & Walter, 2000; Grams, Kosowski, & Wilson, 1997; Terehoff, 2002) and so that the values of trust and openness can be developed. In a friendly climate, people use positive words, accept group members, and acknowledge others for their contributions. Glass and Walter (2000) found that the members of the online community in their study (nursing students) felt a sense of belonging to their community when they were acknowledged and felt validated by others. They posit that these are key characteristics of good relationships in online communities. Adding to this, Terehoff (2002) emphasizes the importance of 'becoming friends,' as this will enhance cooperative activities among community members and, as an outcome, individuals in communities will be more likely to participate in and contribute to the group, knowing that their ideas are respected and accepted.

There may also be hindering factors that obstruct teachers from fully participating in online communities. Researchers such as Young and Tseng (2008) identify that some of the members of the online communities in their study kept quiet when facing outsiders. Their analysis indicates that these partic-

Participants felt constrained by their face-to-face teaching community. Teachers were reluctant to participate in sharing activities through the online communities because of their rigid and tight face-to-face social networks. Teachers in Young and Tseng's (2008) study tended to share with existing community members and showed reluctance to share with new members to retain their superior status. Young and Tseng (2008) describe this phenomenon as localism, by which teachers let their membership of departmental or school communities define their boundaries, leading them to fail to transcend these boundaries to develop new communities with diverse groups of people. This is explained by Wenger et al. (2002) as an issue of boundaries between members. When community members develop tight and close relationships with their peers, it is difficult to open the community up to new members, as letting them in might influence their current shared repertoire and practice.

Other researchers have cited the role of the leader and leadership as a crucial factor contributing to successful communities (Day, 2000; Fullan, 1991; Sergiovanni, 2001; Wenger et al., 2002). In online communities, coordinators have a significant influence in developing the communities by helping the members identify essential issues, planning and facilitating the community's events, fostering the development of community members (Wenger et al., 2002), being willing to set limits of participation, and to contact members who are not participating and inviting them in by creating a warm atmosphere that promotes the development of a sense of community (Pallof & Pratt, 2007).

Another critical factor is having sufficient time, especially during school hours, to get online. School leaders have a direct influence on their school's culture. Therefore, Day (2000) and Doukas (2004) state that it is crucial that school leaders facilitate a culture in which teachers can become part of learning communities. When learning communities are developed within the school culture, teachers will be motivated to strive towards continuous learning (Lieberman, 1995).

Day (2004) asserts that culture is the crucial condition that may influence teachers' ability to exercise their agency and control change. Moreover, recent research has indicated that knowledge sharing, communication, and learning in communities are all affected by the cultural values of individual participants (Hofstede, 2001; Hutchings & Michailova, 2004). Wenger et al. (2002) write:

People's willingness to ask questions that reveal their 'ignorance,' disagree with others in public, contradict known experts, discuss their problems, follow others in the thread of conversation – all these behaviors vary significantly across cultures. (p. 118)

Another crucial factor that determines how teachers participate in, perform, and commit to any activities is determined by their identities (Day et al., 2007), and an understanding of teachers' identities is central to any analysis of teachers' effectiveness, work, and lives. Srisrankulwong (2005) also states that identity plays a vital role in providing a rationale for understanding why and how teachers are committed to their profession. The significance of the issue of identity in CoPs is highlighted by Wenger (1998), who mentioned that issues of identity are considered as an integral aspect of a social theory of learning and are thus inseparable from issues of practice, community, and meaning.

THE CONCEPT OF IDENTITIES

Beijaard, Beijaard, Verloop, and Vermunt (1995, p. 282) value identity as "who or what someone is, the various meanings someone can attach to oneself or the meaning attributed to oneself by others." While Deschamp and Devos (1998) define identity as "what makes you similar to yourself and different from others" (p.3). Beauchamp and Thomas (2009) explained that identity is dynamic as it is developed through an ongoing process of interaction with others in a professional context. This corroborates Bloome, Carter, Christian, Otto, and Shuart-Faris (2005) who conceptualized identity, not as a set of inherent characteristics, but as a continual process of construction and negotiation by people in interaction. Day (2004), besides agreeing with the definition that identities refer to the meaning an individual attaches to her or himself, also explains that teachers' identities are very much related to the subject they teach, the relationships with students, and the responsibilities in school as well as their personal life outside of school.

This indirectly shows that teachers' professional commitment and their identities as learners are linked to their professional identities. Wenger (1998) posits that identity plays a key role in how members of communities learn, communicate, share, and carry out their activities. Wenger (1998) also mentions the aspects of mutuality of engagement, accountability to an enterprise, and negotiability of repertoire, which reflects members' identities. Teachers' participation, commitment, and performance in any activities are then determined by their identities (Day, 2004; Srisrankulwong, 2005) and based on teachers' values, roles interests, and history (Beauchamp & Thomas, 2009).

In addition to the way identity is defined, the concept of identity can also be viewed through different categories. The classification of identities into personal, professional, and situated identities was highlighted by Day et al. (2007). Professional identity, according to Day et al. (2007), is 'open to the influence of long-term policy and social trends as to what constitutes a good teacher, classroom practitioner, etc.' (p. 107). This category of identities covers the aspects of teacher's responsibilities, workload, role, and continuing professional development. Another category of identities, according to Day et al. (2007), is situated identity that is located within a context of specified school, department, or classroom and is "affected by pupils, support and feedback loops from teacher's immediate working context which is connected to long-term identity" (p. 107). The third category is personal identity, which covers teachers' identities as fathers, mothers, sons, and so on. Day (2004) also emphasizes that teachers' professional identities have been linked to their identities as learners and that they relate to teachers' professional commitment. Day et al. (2007) also posit that personal identity can cause tensions for individuals and may become a hindrance to their professional effectiveness.

Another categorization of identities was explored by Burk and Stets (2009). They highlighted three dimensions of identity, namely, personal identity, role identity, and social identity. Personal identity according to Burk and Stets (2009) refers to the set of meanings defining a person as a unique individual. Role identity refers to the internalized meaning of a role, or the set of expectations tied to a social position and guiding the attitudes and behaviors that individual applies to themselves. The role identity of a teacher may include the meanings of 'teacher' that a person applies to him or herself when playing the role of a teacher. Social identity is defined as based on a person's identification with a social group. Burk and Stets (2009) further explain that although identities differ in their bases, they operate simultaneously in different situations.

Other research has been conducted on teachers' identities, for example, Abednia (2012), Brown and Heck (2018), Khalid and Idrus (2016), Reeves (2009), Sutherland, Howard, and Markauskaite (2010), Timotstsuk and Ugaste (2010), and others that focused on the identification of characteristics of teachers' identities and their formation, for example, O'Connor (2008), Rouhotie-Lyhty (2013), and Taylor (2017). Previous research, however, studied the aspects of identities in the perspectives of the development of teachers' identities in the context of their daily, face-to-face interaction with others. However, there has been very little research (for example, Avidov-Ungar & Forkosh-Baruch, 2018; Howard & McKeown, 2011; Khalid et al., 2014) that has focused on teachers' identities concerning their participation in online communities. The extent to which their identities influenced the way they interact, engage, and contribute to their online CoP is still debatable, although it was profoundly stated that identities play a great role in shaping teachers' behavior in their offline CoPs. Taking this into account, this study aims to identify the dimensions of identities in an online CoP setting and how these identities influence their capacity to involve themselves in online sharing through communities of practice (CoPs). Having an in-depth understanding of teachers' identities would provide a better understanding for why the teachers reacted the way they did and how does the dimension of identities play a role in this. The research questions are twofold: (a) What are the dimensions of identities concerning online CoP?, and (b) How do the dimensions of identities influence the way teachers behave on their online CoP?

METHODOLOGY

Individuals are different, and their understanding of realities is subjective (Bryman, 2004). Therefore, it is my role as a researcher to understand these multiple realities from the perspective of the research (Bloomberg & Volpe, 2008), and, thus, my epistemological stance is anchored within the interpretivist paradigm, as an interpretivist approach considers ‘theoretical ideas’ that ‘develop directly from the data gathered for the research’ (Lewin & Silver, 2007, p. 88). In analyzing the data, I listened to the voices of the participants and appreciated the presence of all the factors emerging (Lowe, 2007), even though, as Lowe (2007) notes, these ‘voices’ may be influenced by ‘other factors outside of the immediate situation’ (p. 12). An interpretivist methodology aims to provide ‘contextual understanding on the basis of rich and detailed data’ (Mason, 2002, p. 3). This study intends to apply theory in an ad hoc way as themes emerge from data, rather than hypothesizing any theoretical outcomes. However, it is vital that the literature should be reviewed before the research, as it will provide information on the questions to be asked in the study.

This research employed a case study approach, which aims to focus on the relationships and processes involved in the case being studied. Denscombe (2010) postulates that to understand one thing it is necessary to understand many others and, crucially, how the various parts are linked. The case study approach offers chances for the researcher to go into sufficient detail to unravel the complexities of a given situation. As this project was aimed to explore teachers’ identities concerning their participation in an online CoP, access to the participants had to be done through the schools’ administrators. To get the participants, I explained the aim of the study and the characteristics of potential participants (i.e., teachers teaching Mathematics, Science, or English language and who had different years of teaching experiences, i.e., from new teachers to senior teachers) to the school’s administrator. Only two or three teachers are required from the six schools, which was estimated to gather 18 teachers at the maximum level. The number of 18 participants is considered sufficient for this study. This is in line with Wenger et al. (2002) who state that “communities with fewer than fifteen members are very intimate. Between fifteen and fifty participants, relationships become more fluid and differentiated. Between fifty and 150, communities tend to divide into subgroups around topics or geographic locations and beyond 150 members, the subgroups usually develop strong local identities.” (p. 36). This is further supported by other researchers (Chalmers & Keown, 2006) who mention that for CoPs to be competent, an ideal number of members should be between seven and twelve. MacDonald (2008) also asserted that a smaller group of people will help ensure that individual voices are heard. Moreover, large groups are often subdivided into smaller teams of like-minded people or subject-based teachers (DuFour, 2004).

After a few weeks, the list of participants was provided by the schools and resulted in a total number of 16 participants (fifteen female and one male teacher). Although it is noted that the number of participants may not be balanced regarding their gender, this situation is uncontrollable as the school administrator made the selection of participants and, additionally, in the Malaysian school context, female teachers outnumber male teachers.

Before the participants gathered in an online platform for them to share their best practices and challenge, they had to attend a few workshops. During the first workshop, the participants learned to familiarize themselves with the use of a blog – a platform for them to share their best practices. Hands-on activities were carried out in which the teachers tried out what they had learned, such as how to publish new entries and how to comment on others’ postings. To provide better assistance, I developed a manual on how to operate the blogs. This manual was given to all participants so that they could refer to it at home or school in case they forgot the procedures. After seven weeks, the first interview was conducted. The second workshop was conducted four weeks after the first interviews were completed. In this workshop, participants learned about the use of a flipped camera to record learning activities in their classrooms. The recorded video will be uploaded to the Virtual Interactive Platform (VIP), another platform used for their sharing activities. Following the workshop,

participants were given a month to upload videos of their teaching and get involved in online discussions. The second one-to-one interviews were conducted within four weeks after their second workshop. Within that duration of time, several teachers asked for more technical support related to uploading their videos. During this period, I visited them individually at their schools and provided them needed support. The third phase of the interview was conducted after 10 weeks to give them more time to involve in their online collaborative sharing activities. The questions for each phase of interviews were formulated differently to gain a more in-depth understanding of their identities (see Appendix). The interview questions were semi structured. For example, after the first phase of one-to-one interviews, I studied their previous data and, following the data I had collected, I used the second interview to probe more deeply based on their previous statements. The overall implementation of the project took up almost 8 months.

Data analysis was conducted using thematic analysis (Braun & Clarke, 2006), through which the emerging themes were carefully identified. To illustrate the interconnections between the dimensions of teachers' identities, a "causal network" (Miles & Huberman, 1994) was developed (Refer to Figure 1 later in the paper). The basic principle in this process is to develop one or more meta-networks that respect the individual case networks from which they have been derived. To do this, related factors were put in boxes, and these boxes led to other boxes through "streams" (Miles & Huberman, 1994). The streams all led to the final outcome (for this study, the final outcome is teachers' participation in the online community). To do this, a stream of variables leading to successful participation in CoPs for all the cases was developed. After developing the causal network for all cases, the streams that were identical across the cases, as well as those that were different for further interpretation, were extracted. As explained by Huberman and Miles (1998), the basic principle in this process is to develop one or more meta-networks that respect the individual case networks from which they have been derived. The outcome of this process is a causal model, i.e., "a network of variables with causal connections among them, drawn from multiple-case analysis" (p. 222). It is a higher order effort to derive a testable set of propositions about the complete network of variables and interrelationships.

FINDINGS

Based on the analysis done, four main dimensions emerged, i.e., personal identities, professional identities, learner identities, and member of the community's identities, as shown in Table 1.

Table 1. Dimensions of identities

Categories	Sub-categories	Description
Personal identities	Age	Teachers' age.
	Gender	Teachers' gender.
	Marital status	Teachers' marital status.
	Age of children	Teachers' age of children.
Professional identities	Responsibilities in school	Teachers' responsibilities in school.
	Competency in teaching	Teachers' perceived skills in using online applications for sharing, such as blogs, online groups or other social networks, and their actual performance within the CoPs.
	Prior knowledge and experience	Teachers' prior knowledge and their experience using online applications, such as the use of emails, online groups, blogs, and other social networking sites.
	Perceived importance	How the teachers perceived their importance in school.

Categories	Sub-categories	Description
	Job satisfaction	How much satisfied are teachers with their current job and their contribution.
	Commitment	How much commitment teachers gave to participating in online sharing activities, concerning the time they spent
	Motivation	How teachers were motivated to participate in online communities
Learners' identities	Needs for improvements	The aspects that teachers' need to improve.
	Learning preferences	How teachers view the most effective learning experience approach for their professional development.
	Beliefs in the benefits of online communities	Teachers' beliefs in the benefits of online collaborative sharing activities for their professional development.
	Beliefs in the importance of online communities	Teachers' beliefs about the importance of online collaborative sharing activities for their professional development.
	Sharing preferences	The way teachers preferred to share. Three sub-categories constitute this category: a) <i>Topics</i> : teachers' preference of topics of discussions, b) <i>Ways of participation</i> : teachers' preference concerning the way to participate, e.g., verbal rather than textual, giving rather than receiving or vice-versa, and c) <i>Medium of sharing</i> : teachers' preference of virtual or face-to-face discussion.
Members of communities' identities	Membership in communities	The communities (or groups or teams) that teachers had already been involved in their daily work.
	Openness	How teachers accepted comments from other, their willingness to initiate new topics for discussion, their openness to share their comments or thoughts, teachers' preference of who should become members of their communities and the extent to which teachers could give and take in their communities.
	Perceived role	How teachers perceived their roles as members of their communities.

PERSONAL IDENTITIES

The first emerging theme was teachers' personal identities. This category of identities covered four sub-categories: a) their age, b) gender, c) marital status and number of children, and d) the age of their children. The teachers' ages ranged from 24 to 52 years old. All the teachers were female, except for one. All the teachers were married; only two had no children, and these were the youngest teachers, while older teachers tended to have more children. From the analysis, it was found that teachers associated their level of participation in an online community with their personal aspects such as their age, marital status as well as their responsibilities of their children. Examples:

I have three children. One in standard two and another two are 4 and 5 years old. When I am in school, my mother will take care of my children. However, after school hours, I have to bring them back to our house and spend my time with them. I have no helper at home ... so can you imagine

how tight my daily schedules are? I cannot bring back my school work. I have no time to spend in our online group. If I have little extra time, I will surely read the discussions, but I hardly give my comments. I have to prioritize my family first. (Azie)

I do not have time to go into it [blog and VIP] because I don't have a maid at home [Note: it is not uncommon for teachers' families to have maids at home to assist with childcare and housework, although this might not be common for teachers globally] ... I have to manage a family of nine ... nine in my family ... so my mother in law ... her leg is not so good, so she has problems ... she can't do work ... so I have to do all the work ... and I have three children ... three young children ... my youngest is still four. I have to feed her. (Eve)

However, for teachers with older children, the responsibilities towards their children did not seem to be so burdened:

I have five children. All of them had already finished their school years except for one who is currently in standard five (17 years old). I have two sons studying in the UK, another one in a local university. My eldest daughter is working with oil and gas company. I have two grandchildren! So I don't have much problem to spare some time after school for other activities. It is just the fact that I am not that IT savvy. That's all. (Ismi)

Some of them also mentioned their low level of ICT-related skills with their age. Examples of the answers are:

*Sometimes I want to upload it to the blog, you know ... because when you leave it ... this computer, when you leave it for quite some time, you might forget it ... you know ... so I was struggling! [laughs]
An old person like me, I have to sit down to remember technical things like the blog! (Ismi)*

The only male teacher in this research also talked about commitment towards family:

Well, yes I think that being a husband, a father ... err, I think my wife spends more time with the kids. After all, she does business from our home. So I would say that I have more time after school and to get online and participate in the discussions. I would catch up from where I stopped last time so as not to miss the discussions. (Sham).

He also highlighted his uneasy feeling to be in the group since he is the only male member:

Anyway, being the only male teacher in that group, I feel a little bit awkward, you know. (Sham)

PROFESSIONAL IDENTITIES

The second emerging theme was teachers' professional identities. The categories that constitute this theme are (a) responsibilities in school, (b) competency in teaching, (c) prior knowledge and experience using online sharing applications, (d) perceived importance, (e) job satisfaction, (f) commitment, and (h) motivation.

Although the teachers in this study were teaching in technology-rich schools, the way they perceived their competency in online sharing applications varied. Some of them saw themselves as skilled in using online sharing applications, while others stated that they were not skilled enough, especially in using an online sharing application through communities used in this study, i.e., the VIP.

The analysis shows that more teachers perceived themselves as having the skills to operate the blogs than the number of teachers who perceived themselves as skilled in using the VIP. Those who claimed to be skilled in using the blogs were generally younger teachers. The VIP was cited by the teachers as more complicated, and this might be the reason why the teachers found it difficult to use, especially those who perceived themselves as lacking in relevant skills, whereas the blogs were easier and simpler to use. Example:

It would be good if we used a much easier platform. Because the second one [VIP] was a bit more difficult. Every time we go in, there are a lot of technical problems. I am demotivated. (Kathy)

In practice, it was observed that the teachers asked for more help to use the VIP, regardless of their teaching experience. However, more senior teachers (e.g., Fariha, Ismi and Aini) asked for extra help to use both the blogs and the VIP, while younger teachers managed to explore and learn by themselves concerning the manual given (Noni and Hajar). As mentioned in the previous section, teachers who referred to themselves as old-timers stated the difficulty of sharing things via online platforms due to their limited skills in using the blog. They related their limitations to their age.

Prior knowledge and experience category refers to teachers' prior knowledge and their experience using online applications such as the use of emails, online groups, blogs, and other social networking sites. The analysis separates three categories of online sharing applications: profession-based online groups, e.g., Yahoo Groups; profession-based sharing platforms, e.g., blogs; and other social-based groups, e.g., Facebook, Twitter. For profession-based online groups, all the teachers indicated that they knew that such groups were available online; however, only six teachers had some experience participating in such groups. Regarding sharing through blogs, all the teachers stated that they read blogs on the Internet, but only five teachers had personal blogs. The majority admitted having a Facebook account and using it for social purposes. It was observed from the findings that teachers who had some experience participating in other online groups showed more openness and positive reaction towards their membership in an online community created for this research. Examples:

Well, this group (online community developed for the research) is just like other online groups. I enjoyed being in those online groups as I benefitted a lot from the discussions. I joined one English teachers' group which is based in the US. I met hundreds of English Language teachers in that group. I would say that online discussion and sharing ideas activities can be as beneficial as what you might get in face-to-face sessions. So, I do not have many issues with our current group. (Lim)

However, teachers without experience dealing with online group mentioned that it took them some time to absorb the spirit of online community of practice and some of them even felt 'unsecured' to share their stories with others, i.e., other members from other schools whom they just recently met. An example:

It is not easy for me to open up. You know ... we come from different schools; our schools have a huge name and pride. So, there are things that we should not share openly in public ... like the fact that we are facing with discipline problems ... that will give others a bad impression of our school. (Noni)

Motivation refers to what motivated the teachers to participate in online communities. The teachers were driven by both internal and external motivational factors. Although most of the teachers believed that they were motivated either by their own needs, interests, or beliefs to participate in online sharing activities, none of them denied the importance of being driven by external factors. The most cited factor that may lead to their higher participation was enforcement by the administrator. Examples of the answers are:

It [online sharing activities] becomes a secondary task. I mean, it might be beneficial, but definitely, I cannot give full commitment. Unless it is considered as part of a teacher's official tasks, then I think it becomes essential to all. (Eve)

At certain times if it is counted for like ... it becomes part of the staff development, you see ... then yes, the higher level of participation will be there because they know we have to meet the seven days requirement for staff development and all that, so we will get it done. (Kathy)

Another external factor mentioned was engagement by other members of the community. Teachers believed that if everybody showed a high commitment to their sharing activities, other members would be more motivated to share their ideas too (Sherry). However, unfortunately, in this community the level of participation was not as high as expected. Hence, it demotivated others who were formerly active to finally decline to share things online anymore due to low responses from others (Noreen).

Commitment refers to how much time teachers committed to participate in online sharing activities. Three teachers revealed that they would only access their online CoPs within school hours, while six others chose to spend time online after school hours, but from their schools or staffrooms. These two groups of teachers did not seem to spend extra time on online CoPs outside the school. Six other teachers, however, cited having spent some time on their online CoPs at home, not only during school hours but during their free time, such as on weekends. When teachers were asked to comment on their commitment towards participating in an online community they were involved in, three teachers mentioned having limited opportunity or time to get online especially after school hours, as they had commitments towards their school work. Examples:

I have no time for all this during school hours. Usually, I will spend my time marking books in the staffroom or meeting students who come to see me. I do not want to bring school work home. (Eve)

Like myself ... my priority for this [online sharing activities] will be the last ... frankly speaking to you ... my priority is my schoolwork done first, and then my obligations, later on, my obligations towards my studies and my family, that comes second, so this is ... I always put it at the end ... when I have the time to go in ... then I go in ... so I cannot take it as an essential task. (Kathy)

LEARNER IDENTITIES

The third emerging dimension is learners' identities, which comprised five categories: (a) needs for improvement, (b) learning preferences, (c) beliefs in the benefits of online communities, (d) beliefs in the importance of online communities and (e) sharing preferences. Teachers had both positive and negative views of the perceived benefits of the blogs and the VIP. In relation to the blogs, seven teachers viewed them as not only beneficial for getting new ideas and expanding their networks to include teachers from different schools, but also to help them enhance their current skills and knowledge. Five other teachers stated that the blogs were merely beneficial for them to gain new ideas, while another two teachers did not see any benefits of the blogs, but instead saw them as lacking benefits, which related to the fact that the blogs required the teachers to learn new skills in order to use the blogs more effectively. Spending extra time on learning new skills was seen as problematic, especially for those who had little commitment towards their online CoPs.

In relation to teachers' beliefs in the importance of online collaborative sharing activities, the majority of the teachers stated their beliefs in the importance of the online CoPs that they were involved in. Only four teachers did not see the importance of online CoPs. These teachers believed that they relied more on their colleagues to get whatever information they needed (Azie, Hanna, Kathy, Sham).

Sharing preferences sub-category was constituted by four elements: (a) persons whom they preferred to share with; (b) ways of participating (teachers' preferences in terms of the way of participating, e.g., verbal rather than textual, giving rather than receiving or vice-versa); (c) the medium of sharing (teachers' preferences of whether to have virtual or face-to-face discussions); and (d) topics they preferred to share.

The findings show that the majority of the teachers preferred to share with people whom they knew, whereas only five teachers claimed to be comfortable sharing with anyone. This might be related to their openness. Some teachers claimed to prefer certain styles of sharing. Although not many cited their preference, it is important to note here that three teachers named their preference to talk rather than write to share ideas; three teachers wanted to talk and read-only and avoided writing. Two other teachers wanted to provide answers and expected other teachers to ask questions. Only four teachers were comfortable with online or virtual sharing, while ten teachers stated being more comfortable with face-to-face interaction. Regarding the topics for discussion, while two teachers cited their preference to share topics around co-curricular activities and personal experiences merely, five other teachers cited topics related to teaching practice. Another six teachers named a mixture of both topics.

MEMBER OF COMMUNITIES' IDENTITIES

Member of communities' identities category covers three main sub-categories, i.e., membership in communities, teachers' openness, and their perceived role as community members. Openness refers to how teachers accepted comments from others, their willingness to initiate new topics for discussion, and their openness to share their comments or thoughts. Openness here also refers to the extent to which teachers could give and take in their communities. Five categories emerged in the analysis related to teachers' openness. Among these five categories, only one category showed openness as a positive value, i.e., open to sharing anything related to practice (cited by three teachers). The other categories are hesitancy to reveal one's own weaknesses (cited by seven teachers), afraid of being seen as 'showing off' (cited by two teachers), afraid of having nothing 'new' to offer (cited by four teachers), and being careful about revealing sensitive issues about their schools (cited by four teachers).

The findings indicate that most teachers in this study were likely still bound by hindrances that prevented them from fully participating in their online CoPs. Hesitancy to reveal their weaknesses, fear of having nothing 'new' to offer, and fear of being seen as 'showing off' were found to be closely related to their identities – the teachers were concerned about what other people thought about them, primarily when it might involve negative perceptions. Overall, three categories emerged from the analysis: those who contributed more than receiving; those who received more than contributing; and those who had a balance between contributing and receiving.

For the first category, four teachers perceived their role as giving more contributions than receiving them from others. Teachers in this sub-group were senior teachers who had eight and above years of teaching experience and who had more critical positions in their schools. Three teachers felt themselves to have received more than they contributed to their communities. These teachers all had zero to three years of teaching experience. Due to their low perceived competency and knowledge, these teachers felt that they needed to learn more than they could share. Nine teachers fell into the third category, i.e., having a balance between giving and receiving.

THE INFLUENCE OF IDENTITIES UPON THEIR PARTICIPATION IN ONLINE CoP

From the overall findings, there are interconnections between the dimensions of identities on how they interacted upon teachers' participation in their online CoP. A causal network was established to map the detail of the influences concerning their multiple identities on teachers' engagement in CoPs in this study. A causal network is a display of the most important variables (represented in boxes) in a field study, and the relationships are unidirectional rather than bidirectional or correlational, to suggest that one or more variables lead to another variable(s) (Miles, Huberman, & Saldana, 2014, p. 236). A causal network illustrates through a study's variables how one element led to another in linear yet interwoven patterns. To help understand the flow of the streams, all boxes were numbered individually, and the reading of streams is done from left to right as shown in Figure 1.

Streams 1-2-17-28-35, 1-3-17-28-35, and 1-4-17-28-35 show that teachers' personal identities (age, gender, number of children, the age of children) contributed to teachers' commitment to online sharing activities. As explained in Khalid (2015), teachers with younger children claimed to have to commit more time to their children, compared to those who had older children. Concerning how their responsibilities to family and children affected their commitment towards teaching-related activities, especially after school hours, the same factor influenced their commitment towards participation in online sharing activities. Teachers' low commitment towards their online CoPs resulted in a low perception of the importance of such activities in helping them to develop professionally, and thus affected their level of participation in the activities.

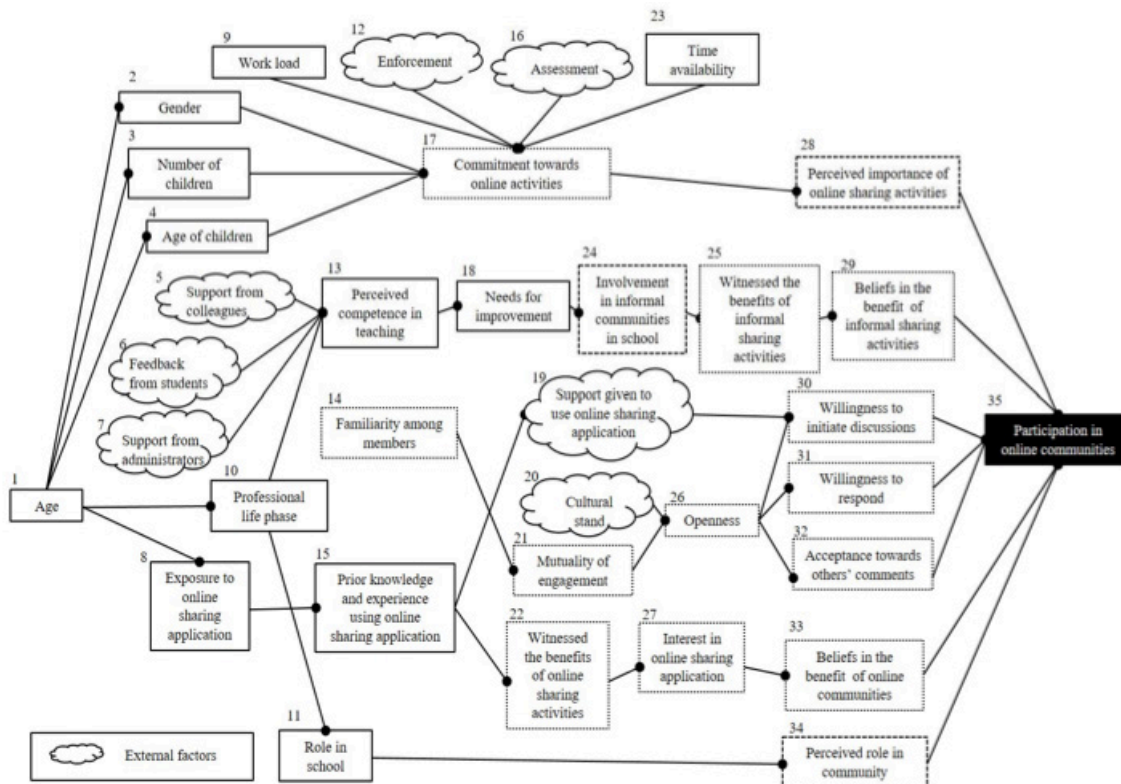


Figure 1. The influence of the dimensions of identities on teachers' participation in online communities

In stream 12-17-28-35, another external factor impacting upon teachers' commitment is shown, i.e., enforcement from school administrators. It was revealed that when there was no enforcement by their principals to take part in this online community, teachers tended to consider it a secondary activity. Teachers also admitted that assessment or monitoring by their school administrators could be a crucial factor to ensure better participation and to strengthen their commitment. Time was also a constraint. As shown in stream 23-17-28-35, teachers found that a lack of time for online activities restrained their commitment to take part. Streams 5-13-18-24-25-29-35, 14-13-18-24-25-29-35, and 7-13-18-24-25-29-35 indicate the influence of three external factors (support from colleagues, feedback from students, and support from principals) on the way teachers perceived their competency in teaching.

Several factors impacted teachers' identities as members of communities, i.e., their openness (their willingness to initiate discussions, willingness to respond to others' entries, and acceptance towards comments from other members). As illustrated in streams 14-21-26-30-35, 14-21-26-31-35 and 14-21-25-32-35, teachers' openness was partly influenced by teachers' mutuality of engagement in their online CoPs.

Stream 1-8-15-22-27-33-35 shows how teachers' beliefs in the benefits of online communities were affected. Older teachers seemed to have had a lack of exposure to online sharing applications compared to younger teachers. Teachers' exposure to such applications, therefore, influenced how much prior knowledge they had of using online sharing applications. For those who had prior experience in online sharing applications, they had witnessed how they could benefit from such activities, and this influenced their beliefs in the benefits. Thus, the findings show that teachers with greater beliefs in the benefits of online activities participated more in the online CoPs in this study.

Stream 1-10-11-34-35 indicates how teachers' perceived role in their communities influenced their participation in their online CoPs. This influenced their perceptions of their roles in contributing to

other teachers in their schools. When teachers felt they had a role in their school communities, they considered it was better to participate in those communities than in this new online cross-school community. In contrast, younger teachers with less essential roles had a lower sense of importance and therefore did not know or value what they could offer in communities. These teachers received more than they gave; thus, their participation in the online CoPs was restrained.

DISCUSSION

This network only represents the teachers in this particular case study and may not be a transferable model to other contexts. However, in qualitative research, an imaginative process can be used in which the reader of the research uses information about the particular instance that has been studied to arrive at a judgment about how far it would apply to other comparable instances (Denscombe, 2010). Therefore, this network has the potential to be transferred to another context of the study. Overall, there are seven factors seen as ‘immediate’ causes leading to the final outcome (participation in online CoPs), i.e., beliefs in the benefits of informal sharing activities, perceived importance of online sharing activities, perceived role in community, willingness to initiate discussions, willingness to respond, acceptance towards others’ comments, and beliefs in the benefits of online communities.

Commitment towards their families (personal identities) affected not only their jobs as teachers but also influenced their commitment towards their participation in the online CoPs in this project.

Again, some of the teachers, regarded their families as their priority after school hours, followed by their official job at a school, while participating in online CoPs became less critical. Older teachers whose children were aged between 9 and 12 and between 18 and above mentioned having grown up children gave them more time for their work and themselves (Khalid, 2015).

Another aspect of the teachers’ personal identities that influenced their identities in relation to online CoPs was their age. ‘Old-timers’ admitted having minimal skills in ICT and that the way they perceived themselves partly impacted on their level of participation in online CoPs. Due to having to learn new things, they felt that sharing in online communities was problematic and time-consuming (Greener, 2009; Thereoff, 2002).

Apart from their personal identities, teachers’ professional identities also played a role in determining their participation. Their prior knowledge and experience influenced teachers’ perceived competency in using online sharing applications. For example, the most prolific participants who had prior experience in participating in other online communities before they joined the project felt themselves to have some skills in this area, compared to those who had no such experience. Their prior experience also impacted the way they perceived the benefits of online activities (teachers’ identities as learners) and their attitudes towards them.

The teachers’ commitment to their online communities was also affected by how much they prioritized their participation in them. Some teachers admitted that they did not prioritize the online activities of the project as they had more school-related tasks to be settled. What emerged here was that the teachers in this study were still bound by the mandated policies of their schools. They were more comfortable being the ‘implementers’ of a mandated policy, or what Zawawi (2008) terms as “doing-oriented.” This can be seen in their explanations as to why they did not fully engage with their online communities. The teachers admitted that they would meet the minimum requirements for the project, even though they might have done more, because of a lack of urgency and sense of importance to do so, e.g., Kathy, Eve, and Noni. If participating in the online communities had been put as one of their official targets, meaning that the school gave recognition to the project as part of the teachers’ official tasks, they were confident that their levels of interaction and engagement would have significantly increased. This supports Howard and DeMeester (2008), who point out that theoretically, if the school’s culture values participation in a community, teachers as members of that culture are likely to adopt this value. It emerged that the teachers in the context of this study were bound within a hierarchical culture in which they needed to have clearly defined roles and leadership to accomplish

the task adequately. It also suggests that the teachers might not participate in something extra, no matter how potentially beneficial. This is related to their perception of how important the sharing was to their professional development, and to what extent their participation in such activities or projects was given accreditation by their school administrators (Khalid, Joyes, Ellison, & Abdul Karim 2013; Khalid et al., 2014).

The teachers' competency in using online sharing applications and their prior experience was found to influence their motivation and engagement to participate in their online communities. Teachers who had prior experience participating in online communities found such activities motivating and beneficial for their practice, and this, therefore, helped them take a more positive attitude and believe in the benefits of online sharing activities. On the other hand, teachers who lacked such experience had lower confidence in the benefits of online sharing activities and their role as a platform for their professional development.

The next category was teachers' identities as learners. The findings indicate that different individuals had different sharing preferences, and the differences were partly driven by how they conceived of professional development as well as how they perceived themselves professionally. Since these teachers' conceptions of professional development were more towards formal training moderated by local informal sharing of practice, they did not feel the urgency to talk about their teaching practices in their online CoPs. Rather, the majority were more comfortable talking about other issues, e.g., their personal lives, and their activities with students outside classroom sessions. For example, some teachers tended to 'forget' about teaching practice when they were not in school. Again, the boundaries between their work and their lives were evident for this group. This was seen to closely link to the aspect of learning trajectories, as Wenger (1998) states that some teachers might only see their job as a self-contained activity, while some might see it as an event that gives meaning to their engagement in their practice. Wenger (1998) posits that a person is driven by his or her learning trajectory. In relation to this, there are types of learning trajectory that result in different levels of participation in CoPs. For example, people with peripheral trajectories will never be central participants, compared to people with inbound trajectories who will participate more effectively.

The teachers' attitudes toward online professional development were also found to influence their participation. This is in line with Maurer and Tarulli (1994), who posit that teachers' attitudes toward online professional development influence the way they participate in it. Teachers with more positive attitudes toward online sharing activities and those who believe in the benefits of online sharing activities will participate more.

Teachers' personal and professional identities seem to have influenced teachers regarding the ways they participated in online communities. New teachers felt that their low competency and confidence in teaching held them back from sharing their thoughts. Therefore, they preferred to 'consume' ideas and to be 'receivers' rather than 'givers.' On the other hand, more senior teachers felt that they had more experience to share; however, they expected younger teachers to come and ask questions, and only then would they reply. They preferred to be 'givers.' In relation to this, teachers' professional identities influenced the way they saw themselves as members regarding their contribution to their group or community, and this behavior seems to be shaped by their roles in subject panels or their other face-to-face CoPs.

Under the theme of teachers' identities as members of online communities was teachers' level of openness towards accepting criticism. This depended on a few factors, namely their personal identities (self-image, e.g., confidence, sense of importance) and professional identities (perceived competence, motivation, commitment, and satisfaction). Although the teachers currently participated in CoPs within their schools and some outside of their schools, the teachers did not show the same level of commitment to the online CoPs. This suggests that their prior experience of being involved in other CoPs did not necessarily guarantee the same level of engagement when they shifted into another community. Wenger (1998) looks at the way teachers handle themselves in communities and

how they engage with their communities through sharing and communicating with other members from a perspective of competency as a member of a community. The way they value themselves as professionals (competency and confidence) influences teachers' openness. Teachers with fewer years of teaching experience and feeling as 'lacking experience' were more open to accepting comments from others, especially from more experienced teachers; in contrast, more experienced teachers found it difficult to accept comments (especially negative ones) from other. This was found to be related to their self-esteem. When teachers felt a sense of competence, it was not appropriate for them to be criticized by others, especially newer teachers.

CONCLUSIONS

In conclusion, it was revealed that the elements of teachers' identities were interrelated and intertwined with each other, not only in the construction of general identities but also in relation to their participation in online CoPs. Their general identity partly influenced their ways and levels of participation in online CoPs. The categories of teachers' identities were interrelated with each other, and thus needed to be fully comprehended; for example, why certain teachers showed different learning preferences or levels of openness was influenced by their professional identities as well as their identities as members of communities.

The finding confirms previous findings from a few perspectives. Firstly, teachers' identities are a result of their history – who they are, their experiences, and their membership of multiple communities. Secondly, teachers' identities are not static and can change due to their surroundings. This finding also highlights the importance of looking at things as a whole and inspecting the root of certain phenomena. The analysis in this study was developed by exploring the reasons behind the teacher's behaviors. Second, the categorization of teachers' identities and the profiling of teachers will allow professional development coordinators in future to recognize the differences in teachers' identities so that differentiated support and approaches can be delivered more effectively and to address teachers' different types of identities. Third, this study has also established a relationship between culture and teachers' identities in relation to their participation in online CoPs. Although it is stated in previous studies that online communities can allow the development of open and supportive relationships and greater cohesiveness within the learning group and lead to greater engagement than through the establishment of more formal relationships, the result of this study emphasizes the importance of taking the aspect of culture into account by a professional development coordinator in the future so that measures might be taken to address issues regarding culture and related barriers to online professional development.

Finally, this study indicates that, in order to ensure the success of any online professional development for teachers, it is important to take into consideration the aspect of endorsement by senior management, e.g., principals or coordinators from a district or a state. Although external influence is sometimes required to cultivate the development of CoPs, the most influential factor is that of volunteerism. The findings from this study in a Malaysian context, however, indicates that volunteerism alone would not be sufficient to establish and sustain online CoPs for teachers. Instead, to achieve better participation by the teachers, there seems to be a need for official endorsement by senior managers, and there might be a need for some form of systematic enforcement, e.g., in the form of assessment or monitoring. Which-ever measures were taken in the Malaysian context these would need to indicate that senior managers valued the online engagement as part of the official framework for continuing professional development of teachers.

REFERENCES

- Abednia, A. (2012). Teachers' professional identity: Contributions of a critical FL teacher education course in Iran. *Teaching and Teacher Education*, 28, 706-717. <https://doi.org/10.1016/j.tate.2012.02.005>
- Avidov-Ungar, O., & Forkosh-Baruch, A. (2018). Professional identity of teacher educator in the digital era in light of demands of pedagogical innovation. *Teaching and Teacher Education*, 73, 183-191. <https://doi.org/10.1016/j.tate.2018.03.017>
- Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175-189. <https://doi.org/10.1080/03057640902902252>
- Beijaard, D., Beijaard, N., Verloop, T., & Vermunt, J. D. (1995). Teachers' perceptions of professional identity: An exploratory study from a personal knowledge perspective. *Teaching and Teacher Education*, 16(7), 749-764. [https://doi.org/10.1016/S0742-051X\(00\)00023-8](https://doi.org/10.1016/S0742-051X(00)00023-8)
- Bloomberg, L. D., & Volpe, M. (2008). *Completing your qualitative dissertation: A roadmap from beginning to end*. Thousand Oaks, CA: SAGE Publications.
- Bloome, D., Carter, S. P., Christian, B. M., Otto, S., & Shuart-Faris, N. (2005). *Discourse analysis and the study of classroom language and literacy events: A microethnographic perspective*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Brown, R., & Heck, D. (2018). The construction of teacher identity in an alternative education context. *Teaching and Teacher Education*, 76, 50-57. <https://doi.org/10.1016/j.tate.2018.08.007>
- Bryman, A. (2004). *Social research methods* (2nd ed.). Oxford: Oxford University Press Inc.
- Burk, P. J., & Stets, J. E. (2009). *Identity theory*. New York: Oxford University Press Inc. <https://doi.org/10.1093/acprof:oso/9780195388275.001.0001>
- Chalmers, L., & Keown, P. (2006). Communities of practice and professional development. *International Journal of Lifelong Education*, 25(2), 139-156. <https://doi.org/10.1080/02601370500510793>
- Day, C. (2004). *A passion for teaching*. London: Routledge Falmer. <https://doi.org/10.4324/9780203464342>
- Day, C., Sammons, P., Stobart, G., Kington, A., & Gu, Q. (2007). *Teachers matter*. New York: Open University Press.
- Denscombe, M. (2010). *The good research guide for small-scale research projects* (4th ed.). Buckingham: Open University Press.
- Deschamps, J. C., & Devos, T. (1998). Regarding the relationship between social identity and personal identity. In S. Worchel, M. J. Francisco, D. Pa'ez, & J. C. Deschamps (Eds.), *Social identity: International perspectives* (pp. 1-12). London: SAGE Publications. <https://doi.org/10.4135/9781446279205.n1>
- Doukas, S. (2004). *Teachers' continuing professional development: The case of a Greek private further education college* (published master's dissertation). University of Nottingham, Nottingham, UK.
- DuFour, R. (2004). What is a 'professional learning community'? *Education Leadership*, 61(8), 6-11.
- Fullan, M. (1991). *The new meaning of educational change* (2nd ed.). New York: Teachers College Press.
- Glass, N., & Walter, R. (2000). An experience of peer mentoring with student nurses: Enhancement of personal and professional growth. *Journal of Nursing Education*, 39(4), 1-6.
- Grams, K., Kosowski, M. M., & Wilson, C. (1997). Creating a caring community in nursing education. *Nurse Educator*, 22(3), 10-16. <https://doi.org/10.1097/00006223-199705000-00011>
- Greener, S. (2009). Talking online: Reflecting on online communication tools. *Campus-Wide Information System*, 26(3), 178-190. <https://doi.org/10.1108/10650740910967366>
- Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving Schools*, 13(2), 172-181. <https://doi.org/10.1177/1365480210376487>

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- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviours, institutions and organisations across nations* (2nd ed.). Thousand Oaks, CA: Sage.
- Howard, S. K., & DeMeester, K. (2008). Managing teacher risk-taking in ICT-related educational change. *The Eighth International Conference on Knowledge, Culture and Change in Organisations*.
- Howard, S. K., & McKeown, J. (2011). Online practice and offline roles: A cultural view of teachers' low engagement in online communities. *American Educational Research Association*. Retrieved from: http://uow.academia.edu/SarahHoward/Papers/355808/Online_practice_and_offline_roles_A_cultural_view_of_teachers_low_engagement_in_online_communities
- Huberman, A. M., & Miles, M. B. (1998). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. 179-210). California: Sage.
- Hutchings, K., & Michailova, S. (2004). Facilitating knowledge sharing in Russian and Chinese subsidiaries: The role of personal networks and group membership. *Journal of Knowledge Management*, 8(2), 84-94. <https://doi.org/10.1108/13673270410529136>
- Khalid, F. (2014). The impact of teaching practice experience in shaping pre-service teachers' professional identities. *Mediterranean Journal of Social Science*, 5(20), 1921-1927. <https://doi.org/10.5901/mjss.2014.v5n20p1921>
- Khalid, F. (2015). The dimensions of identities and its roles in shaping teachers' effectiveness. *Mediterranean Journal of Social Science*, 6(3), 306-314. <https://doi.org/10.5901/mjss.2015.v6n3s1p306>
- Khalid, F., Joyes, G., Ellison, L., & Abdul Karim, A. (2013). Teachers' involvement in communities of practice: An implication with regard to the current approach of teachers' professional development in Malaysia. *Asian Social Science*, 9(16), 102-111. <https://doi.org/10.5539/ass.v9n16p102>
- Khalid, F., Joyes, G., Ellison, L., & Daud, M. D. (2014). Factors influencing teachers' level of participation in online communities. *International Education Studies*, 7(13), 23-32. <https://doi.org/10.5539/ies.v7n13p23>
- Khalid, F. & Idrus, F. (2016). Pembentukan Identiti Profesional Guru Novis di kawasan Pedalaman: Isu dan Sumber Sokongan (The development of professional identities among novice teachers in rural area: Issues and support). *Proceeding of the Malaysian Education Dean's Council Seminar 2016*. Tabung Haji Hotel, Pulau Pinang, 13-15 November 2016, pp. 793-803.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511815355>
- Lewins, A., & Silver, C. (2007). *Using software in qualitative research: A step by step guide*. London: Sage Publications. <https://doi.org/10.4135/9780857025012>
- Lieberman, A. (1995). Practices that support teacher development. *Phi Delta Kappan*, 76(8), 591-596.
- Lowe, M. (2007). *Beginning research: A guide for foundation degree students*. Oxford: Routledge.
- Lysaker, J., & Thompson, B. (2013). Teacher research as practical tool for learning to teach. *Language Arts*, 90(3), 181-190.
- MacDonald, R. J. (2008). Professional development for information technology integration: Identifying and supporting a community of practice through design-based research. *Journal of Research on Technology in Education*, 40(4), 429-445. <https://doi.org/10.1080/15391523.2008.10782515>
- Mason, J. (2002). *Qualitative researching*. London: Sage Publications.
- Maurer, T., & Tarulli, B. A. (1994). Investigation of perceived environment, perceived outcomes and personal variables in relationship to voluntary development activity by employees. *Journal of Applied Psychology*, 79(1), 3-14. <https://doi.org/10.1037/0021-9010.79.1.3>
- Miles, M. B., & Huberman, A. M. (1994). *An expanded source book: Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). USA: Sage Publications.

- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5, 14-37. <https://doi.org/10.1287/orsc.5.1.14>
- O'Connor, K. E. (2008). "You choose to care": Teachers, emotions and professional identity. *Teaching and Teacher Education*, 24, 117-126. <https://doi.org/10.1016/j.tate.2006.11.008>
- Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49, 345-375. <https://doi.org/10.1146/annurev.psych.49.1.345>
- Paloff, R., & Pratt, K. (2007). *Building online learning communities: Effective strategies for the virtual classroom*. San Francisco: Jossey-Bass.
- Parkison, P. T. (2009). Field-based preservice teacher research: Facilitating reflective professional practice. *Teaching and Teacher Education*, 25(6), 798-804. <https://doi.org/10.1016/j.tate.2008.11.017>
- Reeves, J. (2009). Teacher investment in learner identity. *Teaching and Teacher Education*, 25, 34-41. <https://doi.org/10.1016/j.tate.2008.06.003>
- Ruohotie-Lyhty, M. (2013). Struggling for a professional identity: Two newly qualified language teachers' identity narratives during the first years at work. *Teaching and Teacher Education*, 30, 120-129. <https://doi.org/10.1016/j.tate.2012.11.002>
- Sergiovanni, T. J. (2001). *The principalship: A reflective practice perspective* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- Souto-Manning, M. (2012). Teacher as research: Teacher action research in teacher education. *Childhood Education*, 88(1), 20-29. <https://doi.org/10.1080/00094056.2012.643726>
- Srisrankulwong, S. (2005). *Factors affecting teacher commitment in Thai private schools* (Unpublished doctoral thesis), University of Nottingham, Nottingham, UK.
- Stoll, L., & Louis, K. (2007). *Professional learning communities*. Maidenhead: Open University Press.
- Sutherland, L., Howard, S., & Markauskaite, L. (2010). Professional identity creation: Examining the development of beginning preservice teachers' understanding of their work as teachers. *Teaching and Teacher Education*, 26, 455-465. <https://doi.org/10.1016/j.tate.2009.06.006>
- Taylor, L. A. (2017). How teachers become teacher researchers: Narrative as a tool for teacher identity construction. *Teaching and Teacher Education*, 16, 16-25. <https://doi.org/10.1016/j.tate.2016.09.008>
- Terehoff, I. (2002). Elements of adult learning in teacher professional development. *NASSP Bulletin*, 86, 65-77. <https://doi.org/10.1177/019263650208663207>
- Villegas-Reimers, E. (2003). *Teacher professional development: An international review of literature*. UNESCO: International Institute for Educational Planning. Paris: UNESCO.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. NY: Cambridge University Press. <https://doi.org/10.1017/CBO9780511803932>
- Wenger, E., McDermont, R., & Snyder, W. M. (2002). *Cultivating communities of practice*. Boston: Harvard University Business School Press.
- Young, M. L., & Tseng, F. C. (2008). Interplay between physical and virtual settings for online interpersonal trust formation in knowledge sharing practice. *Cyber-Psychology and Behaviour*, 11(1), 55-64. <https://doi.org/10.1089/cpb.2007.0019>
- Zawawi, D. (2008). Cultural dimensions among Malaysian employees. *International Journal of Economics and Management*, 2(2), 409-426.

APPENDIX: INTERVIEW QUESTIONS

Phase	Questions
1 st interview	<ol style="list-style-type: none"> 1. Please tell me about yourself, personally and professionally. 2. What CPD have you taken part in over the last three years? What influence did it have on your teaching? 3. Can you describe some of the things you have learned from working with other colleagues? Do you enjoy this way of working? Why? 4. How often do you turn to experienced teachers to seek ideas on how to teach lessons? 5. Have you shared your ideas with others? 6. Would you like to have more of a leadership role in your school than the one you have at present? What would you like to offer in this role? 7. How much have technology facilities helped you in teaching? How? What might you do without technology? 8. How do you feel about working with others in an online environment? 9. How do you feel about your teachers in an online environment? 10. Would you like to talk about your teaching approaches/practice face to face or online? Why?
2 nd interview	<ol style="list-style-type: none"> 1. What is your expectation from this online CPD? 2. Have you ever involved in the online CPD? 3. What are the things that you feel comfortable sharing? 4. What do you think that you might get from this? Any benefits? 5. If you are given an opportunity to get involved in this online CPD, what will be the aspects that you think you might want to contribute? Is there anything you would like to contribute? 6. Do you think the school can help to make things better? 7. How do you prioritize this online collaborative sharing activities?
3 rd interview	<ol style="list-style-type: none"> 1. Would you please share your experience and your feelings regarding your participation in this project from the beginning up until now? 2. From all your experiences in this online CPD, what is the best one that you can remember? 3. What are the things that influence you the most regarding the way you teach, that way you think and the way you solve problems? 4. What do you think has influenced the way teachers reacted in this online CPD? 5. Some people are keen on this, and there are some who are not. Those teachers who are not active might spoil the group. Do you have any comments on that? 6. What do you think made teachers' participated in these online communities they way they did?

BIOGRAPHY



Dr. Fariza Khalid is a senior lecturer at the Faculty of Education, Universiti Kebangsaan Malaysia. Her research interests are teacher identities, online communities of practice, augmented reality and emerging technologies for educational purposes. At present, she leads a research project on Cyber Security awareness among youngsters. Dr Fariza has a Ph.D. in Instructional Technology from the University of Nottingham, M.Sc. in Educational Technology from Universiti Putra Malaysia, and B.A. in Islamic Education from University of Malaya. She actively participates in research exhibitions at international as well as national level. To date, she had won more than 30 awards. Among her achievements are ‘The Best Edublog/Wiki’ in conjuncture with the Malaysian National University Carnival on e-Learning in 2015, 2nd place of Reimagining & Redesigning Malaysian Higher Education Award under the category of ‘Virtual Immersive Learning Experience’ in 2017 and recently, in 2018, she received ‘The Best Educator Award’ from the university.