THE COMMUNITY OF PRACTICES THROUGH SOCIAL NETWORKING AS A PROFESSIONAL DEVELOPMENT PLATFORM FOR TEACHERS

Wan Amardhatilah Fahmi Wan Mohd Suid

Abstract – **Professional development is essential in education organizations to equip the teacher with up-to-date knowledge and skills in facing education environment changes. Professional development must facilitate teacher learning, knowledge, and skills by resolving and supporting the problem faced in professional practice at the same time foster new ideas. Nonetheless, the current practice of professional development still faces change management failures or inefficiency. These research objectives are to identify the best practices in using social networking as a Community of Practice (CoP) platform for teachers and to analyze their perception in adopting social networking as part of their professional development platform. The earlier perception among 52 teachers at The Malay College Kuala Kangsar, Perak indicates that 67.3% of them are positive and the rest are unsure of using social networking as a professional development platform. After embarking with CoP, 91.3% of 23 participants agree that CoP could enhance their professionalism, and 65.2% have a positive perception of using the Facebook closed group as the platform. This research provides evidence on the possibility of leveraging social networking into CoP to provide alternative professional development. However, the implementation of CoP through social networking needs continuation and perfection so that the outcome of this professional development can be an effective platform for performance improvement and change management. With the strengths, weaknesses, and suggestions in three major aspects of CoP structural, individual management, and organization landscape discussed, it can provide the best practices and input for the next cycle of implementation in using social networking as a professional development platform.**

Keywords – **Community of Practice, Social networking, Social constructivist, Professional development**

I. INTRODUCTION

This research aims to look at the possibility of leveraging social networking into the Community of Practice (CoP) in order to provide alternative professional development as part of performance improvement and change management. The current practice of professional development among teachers at The Malay College Kuala Kangsar, Perak (MCKK) is conducting Continuous Professional Development (CPD) and Professional Learning Practice (PLC) which may sometimes pose several issues on its effectiveness and efficiency. Based on the teacher feedback at MCKK, a few issues arose, which was also highlighted by several authors:

1. Insufficient time to allow meaningful collaborative discussions (Provini, 2013; Sims & Penny, 2014)
2. Lack of common norm and cultural among teachers (Harris & Jones, n.d.; Provini, 2013; Weber, 2011)

3. Lack of support among teachers to achieve common goals (Provini, 2013; Sims & Penny, 2014; Weber, 2011)
4. Trust issues between all teachers and pedagogical leaders (Sims & Penny, 2014; Weber, 2011)
5. Discussion and collaboration did not reach to essential learning outcomes (Harris & Jones, n.d.; Sims & Penny, 2014; Weber, 2011)

The major concern here is that teachers actively engage in a discussion on the relationships between their subjects are limited, hence cause limited awareness of planning of approaches to learning skills in their subject areas. MCKK as an education institution must find more effective and efficient professional development among teachers. This professional development need to aims for effective change management and efficient performance improvement.

II. PROBLEM STATEMENT

A study by Tower Watson in 2013 reported that 75% of change management initiatives met with failure (Lipman, 2013). Mosadeghrad and Ansarian, (2014) also claimed that the failure rate for change management is above 70%. There are many factors that lead to change management failures, but many points out the main reasons are ineffective or inappropriate use of change management framework, ineffective or inappropriate method for implementing the change or intervention program, and lastly inappropriate environment for implementing the change program (Mosadeghrad & Ansarian, 2014).

There is still room for improvement in identifying more effective and efficient change management and intervention tools that can provide the best practices for performance improvement. Through this research, it may help to benefit individuals and organizations to improve their performance by adopting best practices in undergoing professional development through the digital technology landscape. Teachers can embrace and adopt changes through the community of practice as an intervention tool, conducted using digital technology and social networking. This intervention tool may help to improve the teacher professional performance and produce the desired outcomes. The research questions are:

1. What are the teachers' perception in adopting social networking as their professional development platform?
2. What are the best practices in using social networking as Community of Practice platform for teachers?

III.   LITERATURE REVIEW

Learning Theories

Vygotsky and Roth both agree that cognitive growth and the roots of individual knowledge occur in surroundings interactions at the social level (Amineh & Asl, 2015). Then the knowledge is constructed through assimilation and accommodation within the individual. In general, the learning process begins from voluntary attention to logical memory and the formation of concepts (Veresov, 2019). Reality is something being constructed together by society and not being discovered (Draper, 2013). They build the understanding together and give meaning to it.

According to social constructivism, knowledge is a human product (Amineh & Asl, 2015) that exist as the outcomes of mental contradictions interactions of peoples (Draper, 2013). Vygotsky refers to knowledge as socially co-constructed (Veresov, 2019) and emphasis on the role of language and culture in framing the humans experience, understand and communicate reality. Social constructivist also view learning as to seek meaning or significance within social concept or experience (Draper, 2013). Learning is interpretation of stimuli or real-life adaptive problem solving and not just responding to external stimuli (Veresov, 2019). This social process of learning will allow shared experience, collaboration, and discussion.

Social learning environment emphasis knowledge constructed through social practice and interactions and not formal and rigid education framework. "Through social interaction, real-world practice and participant within professional development, the learner can construct meaning and applied knowledge effectively" (Stoszkowski & Collins, 2014) as point out by social constructivism. In social capital theory, the link between social learning network and knowledge sharing are drawn by three thread that plays major influence which is structural, relational, and resource capital (Dreiling, 2015). Structural capital here refers to network pattern and the pool where individual access one to others (Pan et al., 2015). Knowledge contributions are highly significant with strong relational capital where trust, reciprocity, and sense of belonging are developed through each other interactions. The quality of knowledge and how meaningful it is influence by resource or cognitive capital. The exchanging and absorbing information depend on representations, language, and vision of the shared knowledge (Pan et al., 2015).

However, technology is now used to support or handled the learning process, for example, cognitive information processing. Nowadays we consider the organization is the same as the individual in which they are both learning organisms. Because of this current trend of learning, connectivism which known as digital age learning theory, emphasis on social and cultural context of how and where learning occurs that explains the link between technology with individual and organizational learning (G. Siemens, 2017). Learning process can occur outside of ourselves for example through organization or database. Connectivism focuses on connecting sets of information that enable learners to understand more information than the current state of knowing (D. Siemens, 2015). According to George Siemens, the start point of connectivism is the individual learners themselves where personal knowledge sees as a system of networks, which supplies to organization. Later then the knowledge from the organization, in turn, gives back to the system of networks. The individual learners continue the cycle of knowledge growth by their access back into the system of the network (Duke et al., n.d.).

Professional development through social networking require an individual to engage in exploring the knowledge socially as suggested in social constructivism and connectivism. But in a social networking, it needs an informal setting in order the engagement of learning become meaningful because it must come from voluntary means and not being prescribed (Goodyear et al., 2014) as it requires personal engagement. Social networking as a professional development platform emphasis on the process of sharing practices which refer to knowledge generation, supporting the best practice within practitioners which refer to knowledge application and finally innovation of practice which refers to reproduction of knowledge.

Community of Practice

Online social learning community such as Community of Practice (CoP) are powered by technology to provide a potential platform for learning networks. The use of social networking among teachers to access information and continuous support on learning technologies that are constantly changing and progressing can be very convenient, effective, and efficient as professional development platform. Social networking here refers to the practice of expanding social contacts by making connections (Rouse, 2016). Through digital technology and internet networking, our relationship with knowledge has changed, where social networking can become a research network at which knowledge can be created and further shared (Mccarroll & Curran, 2015).

CoP is a group of individuals that have the same concerns and passion for something they do, and progressively learn how to do it better through collaboration (Wenger-Trayner & Wenger-Trayner, 2011). CoP, which first coined by Jean Lave and Etiene Wenger in 1991, are not just spreading existing knowledge within the group, but also promoting innovation, developing social capital, and facilitating knowledge growth (David, 2014). Wegner's definition of CoP gives the idea that this concept of learning, allows but does not always require intentionality, since it can be an incidental outcome through these social processes (David, 2014). However, not all communities can be referred to as CoP. There are three main elements to distinguish CoP with other types of learning communities which are the domain, community, and practice (Wenger-Trayner & Wenger-Trayner, 2011)

IV. METHOD

The research will take place at Malay College Kuala Kangsar (MCKK) education institution. There are five phases as illustrated in Figure 1, which start with gap analysis, cause analysis, intervention selection, implementation of the intervention, and evaluation of performance and change management. Throughout each phase, it involves data collection and analysis. In the first phase, all significant issues that may cause an obstacle to the desired performance being achieved need to be extracted. From here, the cause analysis can be executed by looking at environmental supports, tools, and resources together with teaching skills, knowledge, capacity, and motivation. All these aspects involve the human capital, structural capital, and relation capital of the institution. Performance can be escalated through these intellectual capital growths.

Figure 1: Research Design Phases

The third phase involves the selection of intervention to address the performance gaps. The Community of Practice (CoP) was selected as an alternative for professional development platform as it can provide continuous learning, performance support, personal development, and organizational communication. The social networking platform for this research will use Facebook Group base on two main aspects which are the usability and user experience of the learning system. Usability or the "user-friendly" can be defined as usefulness which reflects on "easy to use" and "serve the purpose" (Interaction Design Foundation, n.d.). User experience is subjective in nature as they needs to meet the exact needs of the user. It depends on individual perception and thought with respect to the product or services towards design, usability, function, practical, effective, and valuable aspects (Morville, 2014). In Malaysia, there is 22.7 million Facebook users (Müller, 2019), which represent 69.63% of the Malaysian population (Department of Statistics Malaysia, 2019). According to Agile Education (2018), 75% of adult worldwide are active on Facebook, so this proof this platform provides high user experience satisfaction for social networking. In MCKK, 75% of the teachers are actively joined Facebook.

The fourth phase of this research will involve 23 teachers that represent 31% of the teaching staff at MCKK for research purpose to look at the success of implementation before fully execute to all teachers.

According to the diffusion of innovation theory by Everett Rogers, innovation or changes are being accepted among organization base on five groups (LaMorte, 2019). So the 31% of the teachers at MCKK will be chosen voluntarily which signifies all the innovators and early adopters group together with a few top early majority teachers. Through this intervention, the online activity will be observed and evaluated in terms of quality and frequency. The quality here refers to informations that are accurate, useful, current, reliable, and complete (*MIS - Quality of Information - Tutorialspoint*, 2020; Nor Athirah Azemi et al., 2017; Thakur, n.d.). Meanwhile, the frequency here denotes how frequent the teacher engages with the CoP discussion through social networking.

The fifth phase is the summative evaluation of the whole performance and change management. The output of this intervention is expected to increase the teacher's performance in classroom teaching and learning skills. Based on the survey using Google Form and personal interview, teacher's perception of the effectiveness, strength, and weakness of implementing a CoP as professional development can be identified. Furthermore, Perceptual Mapping, and SWOT (strengths, weaknesses, opportunities, and threats) analysis will be conducted to get a better overview of the CoP through Facebook closed group.

V. FINDINGS

Continuous Professional Development (CPD) and Professional Learning Communities (PLC) are the platforms used to provide professional development among teachers. Based on the responses, teachers have positive perceptions towards both CPD and PLC where only 15.4% and 11.5% respectively feeling unsure of the effectiveness to enhance their professionalism. Out of 52 respondents, 20 of them are confident with CPD, and 18 of them are confident with PLC, as a platform to enhance their professionalism as a teacher. Nonetheless, there are still concerns regarding the effectiveness of CPD and PLC, where most of the responses points out issues stated in the Table 1. The early perception among teachers, 67.3% believe that Community of Practice via social networking could be an alternative platform for professional development. The rest are unsure on the possibilities of leveraging social networking.

TABLE 1: EFFECTIVENESS OF CONTINUOUS PROFESSIONAL DEVELOPMENT AND PROFESSIONAL LEARNING COMMUNITIES CONCERNS

Effectiveness concerns	CPD	PLC
Lack of understanding of the purpose	51.9%	44.2%
Lack of collaboration	40.4%	46.2%
Lack of common working cultural	40.4%	32.7%
Lack of time to meet	40.4%	42.3%
Lack of communication	28.8%	38.5%

Facebook are chosen as social networking platform because it offers a more convenient platform to support ongoing learning. The features available are sharing posts with attach photos, videos, location, event and also feeling, attach live video, add files, create documents, polling

tools, create events and calendar, and discussion through comments or chat tools. Out of 52 respondents, only 23 teachers are volunteer to engage with Community of Practice using the Facebook group platform. The Table 2 shows their perception towards CoP as an alternative to enhance teacher professionalism.

TABLE 2: TEACHER PERCEPTION TOWARDS COMMUNITY OF PRACTICES TO ENHANCE TEACHER PROFESSIONALISM

Aspects	Average score	Standard deviation	Percentage of strongly agree
A Community of Practice (CoP) helps to improve professionalism as a teacher.	4.48	0.79	60.9%
Comfortable in engaging with Community of Practice (CoP) as part of Professional Development.	4.17	0.72	30.4%
Able to get support from a Community of Practice (CoP) to enhance professionalism.	4.22	0.74	34.8%
The Facebook group is able to provide a sustainable platform for sharing knowledge and professional discussion.	4.00	1.04	43.5%
The Facebook group is able to provide an engaging platform for social and informal learning.	4.09	0.85	34.8%
Prefer to engage with a Community of Practice (CoP) via the Facebook group as an alternative platform for professional development.	3.70	1.15	26.1%

Before undergo CoP, 26.90% of teachers expect to have enriched communication on professional development through the Facebook group. After gone through the intervention, this percentage had increased to 30.40%. However, in reality the engagement by the teachers are poor since only four (17.4%) out of 23 teachers are always posting the content and only eight (34.8%) of the group member are actively giving responses. Out of 21 posts, the Facebook closed group only received 111 number of relevant feedback. On average, each posting will receive 5.29 responses with 23 maximums and 2 minimum number of feedback.

Despite believing that CoP could provide an ongoing support network and sharing knowledge of best practices to build a better work process, there are several hurdles that cause poor engagement for example not keen to spend time on Facebook, having doubt on the information share is valid or relevant, and difficulty to manage learning through the Facebook timeline wall. The Figure 2 below represents the Perceptual Mapping of teachers towards CoP and Facebook as a professional learning platform. The size of the bubbles represents the number of respondents. Meanwhile, the Figure 3 below is the SWOT (strengths, weaknesses, opportunities, and threats) analysis of using The Facebook group as CoP platform to provide professional development.
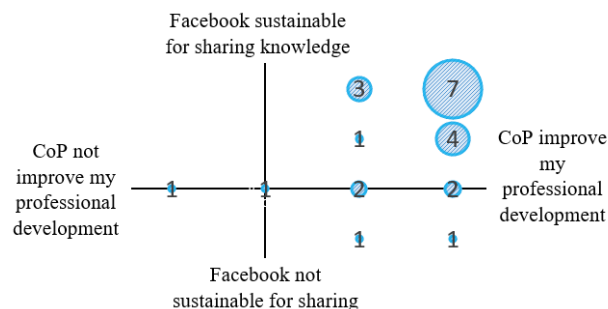

Figure 2. Perceptual Mapping Analysis of Teacher Perception of Community of Practice and Facebook Closed Group as the Professional Development Platform

	Helpful	Harmful
Internal Origin	**Strengths** • Sharing of tacit knowledge • Good usability experience • Able to link with others sources and different media • Accessible anytime and anywhere • Provide cloud storage of documents, media, and discussion	**Weaknesses** • Validity of sources • Relevancy of information • Outside domain of interest • Lack of motivation to engage discussion as it is informal • Inferior to share knowledge and experience at unfamiliar platform • Lack of urgency to engage with discussion • Can be troublesome for user that not prefer or unfamiliar with social-networking
External Origin	**Opportunities** • Usability experience will be keep improving and upgrading • During state of emergency like pandemic, can still provide alternative non-physical contact professional development • Not limited to a close community as it can invite expertise from outside to participate	**Threats** • Workload and other personal commitment provide less motivation and time for teacher to engage with CoP • Not recognize by the stakeholder as a professional development platform

Figure 3. SWOT Analysis of Facebook Closed Group ss Community of Practices Professional Development Platform

VI. DISCUSSION

Research Question 1

The first objective is to examine the effectiveness of social networking as a professional development platform. To identify the effectiveness of the intervention process, two indicators were used. The first indicator is based on teachers' perception of adopting social networking as part of a professional development platform to support changes. Feedbacks through questionnaire was obtained and further interview was carried out among

teacher who participates in the intervention process. The second indicator is based on the engagement level of teacher using social networking as a professional development platform. The number of members actively participate in sharing knowledge and involve in discussions were take noted to reflect the engagement level.

After 23 of the teacher participate in the Facebook closed group as a social networking platform, the positive perception has reduced. The Table 3 below is the teacher perception towards CoP before and after participate:

TABLE 3: FACTORS THAT MAKE COMMUNITY OF PRACTICE IDEAL FOR PROFESSIONAL DEVELOPMENT BASED ON RESPONDENT FEEDBACK

Factors	Before	After	Difference
Sharing knowledge and best practices to build better work process	63.5%	60.9%	↓2.6%
Create an ongoing support network for members	61.5%	52.2%	↓9.3%
Based on common interest, profession, domain, or goals	55.8%	65.2%	↑9.4%
Enrich communication through social media platform	26.9%	30.4%	↑3.5%
Sense of ownership as members are the knowledge contributors	23.1%	13.0%	↓10.1%
Sense of trust and enrich collaboration as members are the professionals that contribute idea and input	21.2%	8.7%	↓12.5%
Informal learning through social media platform	17.3%	26.1%	↑8.8%
Meets virtually at convenient time	15.4%	8.7%	↓6.7%
Sense of voluntary participation as members are in control of what they are learning socially	15.4%	34.8%	↑19.4%

Despite the fact that 91.3% of 23 respondents agree that CoP could enhance their professionalism, but to use Facebook closed group, only 65.2% have positive perception and the rest are either not sure or not favour. Nonetheless, based on Perceptual Mapping in Figure 5, most of the respondents heavily located in the first quadrant indicate positively favourable towards both CoP and Facebook closed groups.

The response from the survey towards teachers that join Facebook closed group indicates that they are 91.3% of them comfortable with CoP, and believe that it can support and improve their professionalism. Fifteen teachers (65.2%) out of 23 participants believe that the Facebook group is able to provide a sustainable platform for sharing knowledge and professional discussion. At the same time, 78.3% of teachers agree that the Facebook group is able to provide an engaging platform for social and informal learning. However, the teacher responses do not truly reflect the actual participation in the Facebook group.

The poor participation of teachers in the discussion despite positive response on the CoP through the Facebook group is not because they are not favoured to this alternative of professional development. Further interviews with the participant point out that, they prefer to be passive members. They are more comfortable receiving information than giving information as this concept and environment are still new to them. They feel insecure and unsure of what to write or what to response. Most of the teachers still have inferior sentiment towards more experience teachers to contribute ideas, knowledge, and views.

Among the 23 teachers that participate in CoP through the Facebook group, five of them also join other Facebook groups that focus on sharing information among the international community on specific subjects which are English, Economics, and CAS (Community, Activity, and Services). During the interview, all the five teachers point out that even though the groups are very active, still most of the members are passive. Even they are also more comfortable receiving the knowledge rather than sharing it in that Facebook group.

Research Question 2

The second objective of this research is to identify the best practices in using social networking as a Community of Practice (CoP) platform for teachers. From the survey and interview, all relevant issues, suggestions, strengths, and weaknesses were classified into three main aspects; CoP structural, individual management, and organization landscape. The survey was conducted to all intervention participants who had join the Facebook group as CoP. Then further interviews were carried out for five active members and another five passive members.

The structural capital is one of the strands in intellectual capital that consists of supportive tools, processes, and information that enable human capital to function (Spacey, 2017). The human capital is the individual measure of habits, knowledge, skills, social, and personal attributes that influence the ability to perform tasks and productivity (Pettinger, 2019). The relational capital the measure of the internal and external connection among organisation community and stakeholder by establishing, nurturing, and managing good relationship (Still et al., 2013). The Figure 4, 5, and 6 below is the list of issues, strengths, weaknesses, and suggestions, point out by the CoP member related to structural, individual, and organisation aspects

Issues	1. Not all ideas/methods are suitable for all subjects. 2. The validity of resources shared sometimes can be doubtful 3. Some tend to include out of the topic item (eg: selling items) 4. Not all topics are being discussed or lacks engagement for deeper discussion

Weaknesses	5.	The validity of sources as mostly depends on tacit knowledge
	6.	Relevancy of information as its scope can be too big and unrelated to individual needs
Strengths	7.	Good usability experience
	8.	Able to link with other sources and different media
	9.	Accessible anytime and anywhere
	10.	Provide cloud storage of documents, media, and discussion
Suggestions	11.	Create group with specific need/niche area of study
	12.	Since Facebook is a sharing platform, opinions, resources, and suggestions, it is up to the teacher to choose which is appropriate and relevant to their professional needs
	13.	The moderator of the group plays an important role to ensure the ideas or content shared are relevant and provide feedback
	14.	List topic of discussion rather than discuss randomly
	15.	Allocate any specific time period for discussion as we might not know others availability

Figure 4: Issues, Strengths, Weaknesses, and Suggestions, emphasize by the CoP Member Related to Structural Aspects

Issues	1.	Push notification send to email make it full
	2.	Too many ideas to share so can miss the important notes
	3.	Difficult or lack of motivation to engage
	4.	Preferences on real-life interaction for sharing the intricacies of teaching.
	5.	Hard to fully engage on Facebook or any other social media for non-tech-savvy
	6.	Not everyone spends time on Facebook.
Weaknesses	7.	Lack of motivation to engage discussion as it is an informal setup
	8.	Inferior to share knowledge and experience at unfamiliar platform
	9.	Lack of urgency to engage with discussion
	10.	Can be troublesome for user that not prefer of unfamiliar with social-networking
Strengths	11.	Can give better response as it allows reflection time for the members before sharing their views
	12.	Excellent for sharing tacit knowledge
	13.	Excellent for gathering of ideas
	14.	Able to get quick feedback on issues that arise without waiting for face to face meeting
Suggestions	15.	Creating a positive learning environment by providing encouragement, persuasive, or prompt question to get feedback
	16.	Allocate any specific time for discussion to assist member with time management
	17.	Promote effective communication on delivering information in short, sharp, and precise
	18.	List topic of discussion with clear objective to promote positive encouragement

Figure 5: Issues, Strengths, Weaknesses, and Suggestions, emphasize by the CoP Member Related to Individual Aspects

Issues	1.	Negative perception among each other to share or response in social media
	2.	Workload and other commitment provide less motivation and time for teacher to engage discussion
	3.	Slacking to join group as it is informal platform or big in number
Weaknesses	4.	Not recognize by the stakeholder as a professional development platform
	5.	Breech of social and professional boundaries as using social media platform for professional purpose

Strengths	6.	Provide well documented discussions and materials (stored in cloud and accessible by stakeholders)
	7.	Not limited to a close community as it can invite expertise from outside to participate
Suggestions	8.	Create the CoP with clear domain of interest in order to promote positive learning environment
	9.	Constrain the number of each group to establish more close connection
	10.	The Facebook account for all the members in the group must be formal account so that they can focus between works and social activities
	11.	Select a person in charge among school leaders to control the progress of the discussion
	12.	Get recognition and incentive by stakeholder as professional development activities to encourage member participation
	13.	Include expertise, administration and school leaders to promote healthy and professional relationship through social media

Figure 6: Issues, Strengths, Weaknesses, and Suggestions, emphasize by the CoP Member Related to Organisation Aspects

VII. Conclusion

The findings of the research suggest that it is possible to use social networking platforms as a Community of Practice (CoP) in order to provide alternative professional development. However, the continuation and perfection of this practice are needed to ensure it can be an effective platform for performance improvement and change management. With the strengths, weaknesses, and suggestions in three major aspects of CoP structural, individual management, and organization landscape aspects, it can provide the best practices on three main areas of intellectual capital which are structural capital, human capital, and relation capital. These findings of research can become input for the next cycle of improving the implementation of using social networking as a professional development platform.

However, this research pose limitation where only take place among teachers at The Malay College Kuala Kangsar (MCKK). The findings may differ as each education institution may have different working cultures and organizational environments. The outcome will be affected by how severe the gap performance and resilient towards changes. Further research can be done to look at different groups of communities with different domains of interest. Another limitation is the period of time implementing the human performance technology and change management cycle process. Leveraging social networks as a professional development platform is something novel for most of the teachers, especially in MCKK. Furthermore, among stakeholder at MCKK and probably most education institution in Malaysia, the Community of Practice (CoP) are not well informed as they are more familiar with Continuous Professional Development (CPD) and Professional Learning Community (PLC). In order to embed the value, belief, and norms of CoP through social networking, time is needed to allow transition and acceptance from formal instructional of CPD and PLC into social learning of CoP.

This research can be the basis for future possible research to find better solutions, mechanisms, and operations of professional development. Through the best

practice of implementing the CoP using social networking highlighted in the research together with the strength and weaknesses, hopefully researcher, education institution stakeholder or teacher community could benefit from it to plan better approaches. Future possible research can consider the different domains of interest groups, different approaches to social networking, and more detailed research data collection that can measure performance improvement.

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