# Leveraging Technology for Teaching Practices: What Teachers Learnt from The Facebook Group

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# Leveraging technology for teaching practices: what teachers learnt from the Facebook group

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**Abstract**. Facebook has attracted large attention from teachers and has created a paradigm shift in the field of education. Facebook has become a learning space for teachers to enhance teacher's professional learning. This study investigates the potential offered by Facebook for the enhancement of teacher professional learning in integrating technology into teaching practices. The study results showed that participation in the Facebook group spurred teachers to continually explore new techniques and ideas in the use of technology to support classroom activities. Participation in the Facebook group also helped teachers to increase self-efficacy and self-confidence. Teachers became more confident to use new technological tools to reach specific curricular goals. The findings of this study provided evidence that learning in a virtual space has the potential to encourage teachers in transforming their instructional practices.

## 1. Introduction

The existence of the internet and social network sites have transformed how an individual communicate and interact with other people. The penetration of technology has affected almost every facet of individuals' social lives. The technology can be a catalyst for innovation and evolvement in the education field. Integration of technology in the classrooms has transformed teaching and learning environments, and empowered individuals to seize new learning opportunities to become lifelong learners. Strategies of teaching and learning are re-conceptualised in accordance with the development of educational technologies. The present instructional practices are being designed with technology-based and learners are engaging in a virtual space in the learning process.

In the education of mathematics, integration of technology has transformed how mathematics content is delivered. Technology allows the use of innovative teaching resources to subject content which has benefit for the overall learning experience. There is considerable demand to infuse technology into teaching and learning practices. However, to bring about such change teachers require familiarising themselves with the technology before using it. Participation in professional learning environments offers teachers opportunities to engage better with technology and advance their skill set. Setting up online learning communities (OLCs) may present an alternative way for teachers to help bring about a collective professional learning experience.

## 2. Methods

### *2.1. Theoretical underpinnings*

Utilisation of technology in schools is not extensively available in developing worlds where it is still considered a novelty. A report by the OECD [1] states that "disadvantaged schools may need

additional resources as the challenging socio-economic profiles and varying needs of the students tend to push up teaching costs". Teachers need to consider the growing relevance and implications of technology to create innovations that can be utilised to improve the capabilities of teaching and learning [2]. Learning environments need to be reinvented to prepare each teacher-as-learner for effective life-long learning. The advancement of educational technology present with new ways for teachers to get involved in social activities in virtual learning spaces to improve their professional learning experiences.

Teachers engage in professional development programmes to fulfil the social and knowledge demands facing shifting system of education [3]. The existing teacher professional development (TPD) at present gives inadequate attention to how to keep teachers motivated and continually develop their own learning. The current TPD programmes in Indonesia are frequently taken place in a face-to-face environment and mainly focus on enhancing teacher's understanding and competencies [4]. When participating in face-to-face TPD teachers faced some challenges such as poor attendance because of a few numbers of the representative are sent to attend, and teachers need to take leave to participate. Using an OLC, teachers can deal with these challenges to develop their professional. Currently, only a limited number of studies that have investigated how teacher's professional learning are developed through social engagement in an OLC.

*2.1.1. Online learning community*

An OLC relies firmly on the Web 2.0 technologies that enable people to exchange their knowledge and share information online. Teachers are now progressively turning to OLC to fulfil their personal or professional needs [5]. They seek professional support, guidance and inspiration through participation in an OLC [6]. Teachers can share their learning resources, develop teaching strategies, and enhance their instructional practices by participating in the OLC [3]. Trust [7] opined that participating in the OLC allows teachers to keep abreast of the latest instructional approaches, and changes in the education field. Preece [8] defines an OLC as any virtual space where people engage in social interactions to exchange information or to support learning or to keep in touch with friends who have a common interest. Ke and Hoadley [9] define an OLC as a virtual learning environment where the learning process is typically online. Based on these definitions, an OLC for teacher professional learning is thus any virtual space where the process of learning of teachers is typically online. Teachers enable to learn through social interactions when participating in an OLC and the process of knowledge building occurred is mediated by technology [9]. Tu and Corry [10] state that when social learning interactions occur electronically, it can be regarded as an OLC.

*2.1.2. Facebook as a platform for OLC*

Facebook has created a paradigm shift in which it provides opportunities for individuals to gather a range of information and binds these individuals together [11]. Facebook was established in 2004 with a purpose of building community and bringing the world closer together. Facebook has had 1.52 billion daily active users on average for December 2018 [12]. Indonesia had 130 million Facebook users as of January 2018 and became the fourth largest Facebook user in the world [13]. Facebook has a feature to support collaboration and social interaction among users who have similar interests, which is called Facebook group [14]. Since 2010 after the feature was revamped and re-introduced, each individual can create a particular group and invite other individuals to be a member of the group [15].

Many educators believe that Facebook has the potential to improve their professional development [16]. Some research works on the use of Facebook as a means for teacher professional development have been carried out [16-19]. All these research works recommend that further investigation in this field is needed. A limited number of empirical evidence of how teachers change their classroom teaching practices after participating in the OLC have been presented. Particularly in Indonesia, only a few numbers of research works have been carried out to examine the potential of Facebook for teaching and learning [20-22]. Sari and Tedjasaputra [22] examined the use of Facebook to increase the engagement of teachers in TPD. They investigated Facebook as a platform for sharing, learning

and reflecting on the current education topics for educators and education stakeholders. Susilo [20, 21] explored students' perceptions in using Facebook as a learning space. Susilo's work examined the social interactions between teachers and students and also between students and students. His study showed that participation of students in the course being taught increased after participating in the Facebook. Furthermore, the teacher's role transformed from merely being an instructor to a facilitator, as they now provided further guidance whenever it was demanded.

### *2.2. The Context of the Study and Method*

The study reported on in this paper is part of a larger study which involved five secondary mathematics teachers. This study employed an ethnography case study to examine social learning interactions of teachers in the Facebook group because it was of an "intimate nature" [23 p. 57] of the study. The researcher took the role as a mediator and participant observer. Being a mediator, the researcher was ensured every participant got involved and contributed to discussions in the Facebook group. Immersion and participation in teachers' teaching activities were conducted for six months (January-August 2016), while as a participant observer the researcher directly observed teaching activities of participant teachers in the classrooms and social interactions in the Facebook group. Immersion in the social interactions within the Facebook group was held for 15 months (March 2016-May 2017). A total of 420 members (included the five main teacher participants) participated in the Facebook group. Specific to the five teacher participants, besides participating in the Facebook group they were also participated in a technology workshop, and one face-to-face meeting. The five teacher participants who engaged in this study were Edi, Udin, Joko, Setyo and Nana (all names are pseudonyms).

## 3. Result and Discussion

The five teachers posted their teaching and learning activities' photos and videos on the Facebook group. Their entries included stories of their teaching experiences, technology tools used, and issues and solutions faced by them during utilisation of technology in their classroom teaching practices. This section outlines the five teachers' perceptions of their engagement in the Facebook group.

### *3.1. Sustained examination of practice*

Sharing practice can be conducted by visiting each other's classrooms. However, visitation of other's classroom is not easy to manage [24]. One of the many ways to address this limitation is the use of videos which can be shared through the Facebook group. Udin shared his view regarding the videos posted on the Facebook group. He said that watching a video made him feel like observing an actual classroom, in which he can identify something important that need to be considered when using technology for instructional practices in the classroom. Udin opined that videos of classroom activities posted on the Facebook group are useful for him because he became aware of the importance of technology preparation before incorporating the technology into the classroom. Watching videos on the Facebook group the teachers could reflect on what had been done and what still needed to be improved. It also provided different potentials for development. Edi learned from one of Nana's teaching videos posted on the Facebook group:

> *As you can see here* [Nana's teaching video] *when Nana taught about "simple interest", she was supposed to teach using the technology, but apparently, it did not work as planned because there was a technical problem with the cable connection of the data projector. I also have experienced such things, and we should have a prepared backup plan when unexpected things happen.*

Edi's view showed that by watching video examples posted in the Facebook group, he learned about classroom situations when technology was incorporated in the classroom. Edi had done what Frederiksen, Sipusic, Sherin and Wolfe [25] call as "call out" to refer to important points from the

teaching videos that could be applied to his own practices. Such examples allow teachers to consider significant points in which they can learn from [26].

The findings from this research provide evidence that the teaching videos have influenced the instructional practices of teachers. Teachers could reflect their technology-mediated teaching deliveries. The teaching videos posted on the Facebook group could be used as shared resources for self-evaluation for teachers to enhance the quality of instructional practice with technology.

### *3.2. De-privatisation of practice*

The Facebook group enabled the teacher participants to make their teaching public. Teachers de-privatise their practice by posting their images and videos on the Facebook group. Figure 1 presents one of the Facebook group's entries consisted of an image of Edi's teaching activity. The image illustrated Edi's teaching activity in the use of Plickers app. Some teachers posted comments that they were interested in the Plickers app too. Comments and reactions from the teachers with regards to the photos showed that teaching activities of Edi got attention from other teachers. Some teachers were keen on Edi's teaching video, and they looked forward to seeing Edi's teaching activity from the video. This form of de-privatization of practice contributed to demonstrating the practicality of the technological tools to support teaching and learning activities. This was also invited curiosity from the teachers regarding the way the apps were used in the classrooms.

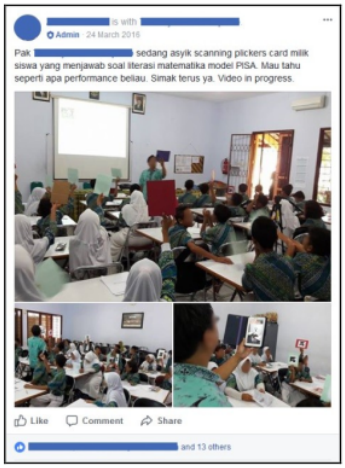


**Figure 1.** One of the researcher's entries on the Facebook group

With respect to de-privatisation of practice in the Facebook group, Setyo, one teacher participant also stated that teaching video was benefited for the existence of being a teacher. Also, the videos posted on the Facebook group are regarded have market values for teachers who work in the private school. Setyo explained that his school benefited greatly from such de-privatisation of practice.

### *3.3. Problem solving*

The discussions on the Facebook group enabled the teacher participants to get together on seeking appropriate apps that could be employed to support teaching and learning, and on looking for solutions to dealing with technical problems came up in the infusion of technology into the classrooms. Teachers even could discuss appropriate teaching strategies that can be applied in the use of specific technological tools.

The use of Facebook in some schools is restricted. Through the discussion in the Facebook group, teachers enabled to determine a suitable time to communicate and interact with other teachers so that it

did not disrupt their school policies. Teachers actively engaged in the Facebook group after school hours.

## 4. Conclusions

Teacher's professional learning could be developed through active participation in the Facebook group. Participation in the Facebook group made impacts on, including: (1) sustained examination of practice for the betterment of the quality of teacher's teaching practices with technology; (2) de-privatization of practice to promote teaching practices of teachers and schools, strengthen relationships among teachers; and (3) problem solving as a process to find any possible solutions to handle technical and organisational issues.

The results of the study showed that teacher's professional learning in the Facebook group had promoted technology use in the classrooms. However, there were some limitations to this study that should be taken into account. The participants of this study are all Javanese. Given this constraint, the generalisability of the findings for teachers in other social contexts and different schools may be limited. Apart from the limitations, this research can be a springboard for further study on the use of Facebook for ongoing teacher professional learning in a similar context in Indonesia.

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