



## The Manifestation of EFL Teachers' Self-Efficacy and TPACK with their Teaching Performance

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### Abstract

Teachers play very important roles on students learning, especially during the pandemic situation where emergency online learning has replaced the traditional classroom learning. Some factors can influence teachers' performance such as teachers' self-efficacy and TPACK (technological pedagogical content knowledge) framework. Here, the teacher participants have perception of their capabilities to accomplish the task by integrating content, pedagogy, and technology. This paper addresses the issue by employing a qualitative case study to investigate the manifestation of teacher participants' self-efficacy and TPACK, as well as the relation between the two with teaching performance. Three EFL teachers at SMA 2 Demak are purposefully selected as the subjects of the research. The findings reveal that (1) the dominant source of self-efficacy in teacher A is psychological and emotional arousal but in teacher B and teacher C is mastery experience. (2) based on the statistical measurement, the score of teacher A's self-efficacy was 65.0% and 63.9% in the TPACK framework. The score of self-efficacy in teacher B was 85.0% and 68.5% in TPACK framework. In teacher C, the score of both terms was 83.3%. (3) some factors of teacher participants' self-efficacy affected the successful level of teaching performance. In a nutshell, self-efficacy fosters teachers' motivation, develops teachers' TPACK, and influences the successful level of teaching performance to implement TPACK framework. The present research provided a valuable knowledge about the importance of self-efficacy and TPACK framework and suggestion to construct some developmental programs to encourage student teachers in preparing better teaching learning process in the future.

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## INTRODUCTION

Teachers play very essential roles in students' learning, especially during the pandemic situation where emergency online learning has replaced traditional classroom learning. Cognitive factors and affective factors can influence the effectiveness of teachers' competencies. One of affective factors is teachers' self-efficacy. Here, the teacher participants have perception of their capabilities to accomplish the task. Teachers' self-efficacy support teachers in applying some effective teaching strategies that enhance students' language competence such as understanding pupils, providing corrective feedback, and developing teaching styles (Naqvi, 2014). Teachers' self-efficacy also generated positive beliefs exchanged their negative beliefs about their incapability (Karimi, 2011).

In addition to self-efficacy, teachers' competence is central to their performance. Indonesian teachers need to upgrade their competence. In line with this, Yunus (2017) reveals that the result of testing teachers' competence in 2015 is still low. The average value is 44.5 from 75 standard one. Many factors which may improve or inhibit teachers' competence e.g. inability to comprehend the learning material, inability to employ an appropriate teaching learning strategies, and having limited access in conveying their discipline with a proper way based on the current situation. Thus, the teacher should have particular knowledge about how to teach properly, how to comprehend the subject matter, and how to deliver it effectively. This knowledge will be discussed in the present study called technological pedagogical content knowledge (TPACK). It is a kind of integration between pedagogy knowledge, content knowledge, and technological knowledge.

Amid the pandemic outbreak, the teachers' competence needs more attention. The pandemic outbreak changed the educational system. Regarding this, the minister of education, Makarim (2020) argued that teacher competence still becomes the main component in supporting an independent learning. Therefore, selecting the best teacher practitioners is needed to lead the

learning process on entire institutions in Indonesia.

Some previous studies related with EFL teachers' self-efficacy and TPACK framework are conducted by some experts such as the anxiety could be useful when the teacher can manage their thought and learn self-regulation to obtain their goals (Wigfield et al., 2011; and Shahzad & Naureen, 2017). Encouraging EFL teachers' self-efficacy can be applied through some strategies such as adapting their thoughts positively and having good persuasion with colleagues (Nilson, 2013; Moradkhan et al., 2017; and Chang et al., 2011). Besides, supplying teachers with meetings (in-service training, fellow observation, mentoring) can encourage them to share their experiences and knowledge (Zonoubi et al., 2017).

It is in line with Sakhiyya et al. (2018) that the reconceptualization of basic knowledge is very essential e.g. English teacher provide students teachers with pedagogical knowledge and sufficient English proficiency to enhance their students' English proficiency later. Astuti (2016) added that constructing an effective English teacher forum to share their experiences and knowledge can develop their identity development. The higher teachers' competence, it improves their self-efficacy to produce enhancement on students' achievement (Gultekin et al., 2020; Wu & Wang, 2015). Therefore, teachers' self-efficacy can influence learning outcomes because the more proficient EFL teachers, the more efficacious they conduct an effective teaching learning process (Yilmaz, 2011; Rezaei, 2012).

Meanwhile, to overcome some challenges in 21<sup>st</sup> century, proper aspects should be integrated amid teaching learning process. In line with that, the ministry of education in Malaysia enhances the quality of educational system and curriculum to generate some knowledgeable and highly technological skill of teachers to implement TPACK (Zainal, 2016). Besides, by implementing TPACK framework, the technology can engage pupils in language learning and motivate them to acquire English language skills in both practical and realistic ways

(Mofareh, 2019). Abbitt (2011) added that in applying technology within teachers' education program, teachers need to consider what technology skills which are suitable with their discipline.

There are some examples of modern technology which can be applied in classroom activities. Syafryadin et al. (2019) acknowledged that digital story telling can teach pupils creating narrative audio using some pictures, videos, texts, etc. Shyamlee and Phil (2012) added that multimedia technology such as internet, email, smart boards, and computer provide positive effect on English learning. Oner (2020) acknowledged that virtual internship can support pre-service teachers' TPACK development. They work collaboratively and simulate as professional by integrating pedagogy, technology, and content.

The previous researches only investigated self-efficacy by emphasizing on one of the sources. Meanwhile, the present research focused on all sources and detail of them. Besides, the previous ones mostly analyzed teachers' self-efficacy and TPACK at the elementary and college level while the present study provided an investigation on senior high school level.

Therefore, the researchers aimed to investigate: (1) the manifestation of teacher participants' self-efficacy, (2) the manifestation of teacher participants' TPACK, (3) the relationship between the two with their teaching performance.

Teacher's self-efficacy had an important role in teacher education or professional teacher development. Here, the teacher or educator mostly attempt to improve student teachers' self-confident and abilities to accomplish their tasks. By having an adequate self-efficacy, both of them could maintain themselves to achieve their goals. The more efficacious teachers, the more they receive high self-motivation to develop their performance. Thus, by having high self-efficacy, the teacher participants may implement an effective TPACK framework to achieve the standard educational goals.

## METHODS

This paper employs a qualitative research by emphasizing the internet integration technology covered in the TPACK framework. In analyzing teacher participants' self-efficacy, we employed the self-efficacy theory proposed by Bandura (1997) that there were four sources of self-efficacy involved mastery experience, vicarious experience, social persuasion, and psychological and emotional arousal. Besides, in analyzing teachers' technological pedagogical content knowledge, we analyzed it based on the model from Koehler and Mishra (2005) that TPACK framework consist of seven elements involves TK (technological knowledge), CK (content knowledge), PK (pedagogical knowledge), TCK (technological content knowledge), PCK (pedagogical content knowledge), TPK (technological pedagogical knowledge, and TPACK (technological pedagogical content knowledge).

Some data instruments are employed to gain the data such as classroom observation checklist, interview, questionnaire, and document analysis guideline (lesson plan). We had constructed some instruments involving classroom observation checklist, online learning questionnaire about teachers' self-efficacy adapted from Bandura (2006), TPACK questionnaire adapted from Koehler and Mishra (2005). The difference of the questionnaire is both of Bandura and Mishra's questionnaires assess the research subjects individually and group presented in the offline learning, but the present research emphasizes the assessment of subject individually presented in the remote teaching by using internet integration technology. Besides, we also constructed some questions to gain the data interview and analyse teachers' lesson plan to investigate how is teachers' preparedness and implementation of TPACK framework to conduct an effective teaching learning process amid the remote teaching.

## RESULTS AND DISCUSSIONS

The data showed that teacher participants had different level of self-efficacy and TPACK. The varieties of them represented how high and low of perception on their capabilities in accomplishing their tasks. Here, we analyzed the teacher participants' self-efficacy based on their sources, the dominant source, factors influencing, and the roles. Besides, the reseachers analyzed the TPACK based on seven elements of it. Some evidences of the research were related with some previous studies presented on the discussion.

### The Manifestation of Teacher A's Self-Efficacy

In assessing teacher A's self-efficacy, we investigated the sources of teacher A's self-efficacy involving mastery or enactive experience, psychological and emotional arousal, and vicarious experience. The variety of those sources could be seen in table 1.

**Table 1.** Source of Teacher A's Self-Efficacy

No	Sources	Total
1	Mastery experience	3
2	Psychological and emotional arousal	3
3	Vicarious experience	1

The manifestation of mastery experience as one of the sources in teacher A's self-efficacy are designing power point by using Canva application, using code-switching, guiding pupils who had personality problems such as feeling shy to ask a question, having no friends, etc. The teacher also did home visit and suggested to create group of study to learn together.

Regarding this, the manifestation of psychological and emotional arousal of teacher A's self-efficacy was the implementation of online learning by using internet technology integration gave many challenges in teacher A's mindset. The high anxiety of teacher A affected the initiation to set the thought and beliefs. It emerged the courage to take an action such as joining the seminars, asking for a help of others, and maintaining students' behavior by conducting parental involvement. Thus, teacher

A became more successful in achieving the goals. Besides, teacher A also had vicarious experience identified through investigating colleague's achievement about something. The teacher A felt more motivated in accomplishing the tasks.

Both of mastery experience and psychological and emotional arousal had similar score but the dominant source of teacher A's self-efficacy was psychological and emotional arousal because it took more efforts in managing the self-thought, belief, and emotional which happen when many problems occurred. The teacher A tended to change the mindset that online learning was more difficult and challenging than offline learning.

There were some factors which influence teacher A's self-efficacy such as the complexity of the tasks and social status. The complexity of teacher's task involved designing an understandable and innovative learning material, improving students' memories on what they have learnt, training pupils to work well both individually or cooperatively, asking pupils to accomplish their tasks independently, etc. Besides, the social status of teacher A emphasized on doing parental involvement collaborated with parents to control the trouble students together. The teacher A had a status as the homeroom teacher of trouble student so that giving a guidance and motivation towards student directly was allowed.

Regarding that, the roles of self-efficacy on teacher A involved changing the mindset about the difficult online learning and controlling proper self-regulation. Thus, the higher self-efficacy, the more efficacious teacher A set the learning goals.

### The Manifestation of Teacher B's Self-Efficacy

The variety of teacher B's self-efficacy was more complex than the previous one. Here, the teacher B had each category of self-efficacy sources proposed by Bandura. Below is the table of teacher B's self-efficacy sources. The detail explanation was also provided in table 2.

**Table 2.** Source of Teacher B's Self-Efficacy

No	Sources	Total
1	Mastery experience	9
2	Psychological and emotional arousal	4
3	Vicarious experience	1
4	Social persuasion	1

The manifestation of teacher B's self-efficacy that belongs to mastery experience was similar with the previous teacher include constructing learning material by using canva, doing home visit, and using code-switching. Besides, the teacher B also learnt more about canva and shared it towards the colleagues who lack of knowledge. Besides, the manifestation of psychological and emotional arousal in teacher B was managing the emotional not to get burnout easily. Here, many of students were passive and less attentive learners but teacher B was persistent in controlling students' behavior to follow the rule of online class.

Moreover, the teacher B also got motivation after watching the colleague who had a successful experience such as applying online worksheet by using internet integration. The teacher B attempted to do the same thing as the colleague had done. It could be identified as vicarious experience.

Furthermore, some seminars provided positive impact towards teacher B's self-efficacy because getting some of information and knowledge to implement proper online learning. It can be identified as the social persuasion of teacher B. The dominant source of self-efficacy on teacher B was mastery experience whereas teacher B had spent more efforts to achieve some goals independently.

Some factors which influenced teacher B's self-efficacy were the complexity of the tasks and social status. It was quite similar with the previous one. Those complexity of the tasks included designing an effective and understandable learning materials, organizing the lesson plan by using emergency curriculum, selecting the proper tools to support the online learning, integrating the online class by using

internet integration, etc. Meanwhile, in social status, the teacher B build two-way communication between teacher and students amid the online learning process. The teacher often called students' name to do some instructions or answer some questions in order to improve their motivation. In line with that, the role of teacher B's self-efficacy was very essential. It could emerge the self-agency because it was the core belief when someone could make a decision and act individually.

### The Manifestation of Teacher C's Self-Efficacy

Some actions of teacher C proved the variety of self-efficacy sources. Those varieties of teacher C's self-efficacy were provided in the following table. Each of them presented the teacher C's behavior amid online learning. The detail explanation is provided in table 3.

**Table 3.** Source of Teacher C's Self-Efficacy

No	Sources	Total
1	Mastery experience	5
2	Psychological and emotional arousal	3
3	Vicarious experience	1
4	Social persuasion	1

The manifestation of teacher C's self-efficacy that belongs to mastery experience include the higher technological skill rather than the other teacher participants. The teacher C had more experience in technology field rather than the other ones. The teacher C employed WhatsApp video call to convey the material amid the online learning. That was different from the other teacher participants because they tended to employ the school website, WhatsApp group, or Zoom meeting sometimes. Besides, the teacher C asked students to create motivation video by using certain applications. It aims to improve their technological skill and speaking skill.

Another source of teacher C's self-efficacy was psychological and emotional arousal e.g. the teacher C controlled students' behavior amid teaching learning process by giving them

guidance and intensive learning. By having an intensive meeting, the students might feel more comfortable with the teacher C. The effect was the teacher became easier to give some suggestions and motivation towards them.

The third source of self-efficacy in teacher C was social persuasion whereas the teacher C got some seminars about how to construct proper learning materials and learning media. The teacher C became more persistent in accomplishing the tasks because of getting some encouragement and knowledge from those seminars. It improves the self-confidence of teacher C to do something. Therefore, the teacher C became more efficacious in taking some actions ahead. The last source of teacher C's self-efficacy was vicarious experience. The teacher had observed the colleagues' achievement and tended to imitate them. The teacher C selected the positive and negative impacts of others. It emerged the self-development of teacher C in making decision. The dominant source of teacher C's self-efficacy was mastery experience. Here, the teacher C had sufficient knowledge about technology so that the teacher C was capable in integrating internet technology, content knowledge, and pedagogical knowledge amid the online learning. The teacher C also had selected an appropriate learning media to support the online learning.

Based on the explanation above, there were some influential factors of the teacher C's self-efficacy such as the difficulty of task, the amount of effort the teacher expended, the amount of external aid the teacher received, and the temporal pattern of the teacher success. The presence of self-efficacy was very essential. Regarding this, there were some roles of teacher C's self-efficacy towards teaching performance such as examining the behavior, enhancing the effort, and determining further actions.

### **The Manifestation of Teacher A's TPACK**

Based on the statistical measurement, the CK element of teacher A was 58.3%. In CK element, the teacher A could convey the material about "should". Because it had three types of form (present, past, and perfect), the teacher A

also provided an additional material about regular and irregular verbs to support the previous learning material. The teacher A conveyed the learning material clearly and logically but less provided some relevant examples.

After that, the teacher A had 67.9% in PK element. The teacher A mostly used direct method and task-based language teaching which means less used variety of learning strategies amid online learning process. The teacher A also could not manage the online learning process because of the crowded situation of online class. Here, the teacher A could not select the proper place to teach the learning material amid online learning process. Many voices were sounding when the teacher A explained the learning material. The voice of teacher A was also too soft so it might be difficult to be heard.

Next, the teacher A had score 62.5% in TK element. The teacher A had a lot of experience in teaching English conventionally rather than digitally. Otherwise, the teacher had powerful desire to learn more about technology to support online learning. The teacher A learnt a lot about technology (how to operate canva, smanda searching website, zoom-meeting, whatsapp group) from the colleagues and seminars. Smanda searching website is a kind of website for e-learning in SMA 2 Demak. As the result, the teacher A had successfully operated some technologies above.

Besides, in TCK element, the teacher A had a score 62.5%. The selected technology involves smanda searching website, Zoom-meeting, and WhatsApp group were suitable with the learning material. Those technologies could be used to improve students' understanding. In line with that, in TPK (technological pedagogical knowledge) element, the teacher A employed technological tool such as personal computer to access smanda searching website and zoom-meeting. The total score of TPK was 66.7%. Here, the teacher A emphasized the use of internet technology integration to connect with smanda searching website and zoom-meeting. In the school searching website also provided a discussion form whereas teacher and pupils could do question answer section and encouraged

pupils to be actively engaged the online class. Zoom-meeting was used to provide some additional feedback from teachers include giving detail explanation of material, discussing tasks, etc. In a nutshell, the teacher A had chosen the proper technology based on the selected learning methods.

Then, in PCK element, the teacher A also had similar score as the previous one 66.7%. The teacher A had selected less proper learning methods based on the learning material given. The teacher A mostly employed direct method whereas the teacher explained the material more and provided question answer section. Besides, the teacher A also employed task-based language teaching (TBLT) as the learning method. Here the teacher A gave pupils a task e.g. making a brief summary and sentences based on the material given.

At last, the total score of teacher A in TPACK element was 60.0%. First, the teacher A adjusted a proper technological tool and less learning methods based on the learning material and learning situation. Second, the teacher A had integrated English language learning, pedagogical knowledge, and technological knowledge to conduct an effective teaching learning process by providing remedial program, suggestions, and corrective feedbacks.

#### **The Manifestation of Teacher B's TPACK**

In CK element, the teacher B had score 83.3%. The teacher B could convey the learning materials about expressing intention systematically and clearly. Some detail explanations and relevant examples are also provided by the teacher B. Next, the teacher B had score 53.6% in PK element. The teacher B emerged a conducive online class. All of pupils were asked to follow the online class rules such as be quiet when the teacher is talking, use proper personal computer to join online class, be active and talkative. Second, the teacher B implemented CLT (communicative language teaching) as the learning approach to enhance communicative competence of pupils and emerge two-way communications with them.

After that, in TK element, the teacher B had score 81.3%. In fact, the teacher B had quite good technological knowledge. The teacher could comprehend some technological tools such as Canva application, Youtube, Zoom-meeting, smanda searching, and WhatsApp group. Because of the youngest teacher participants, the teacher B had more chances in applying technology than the other ones. The more experience that the teacher B had, the more technological skill could be improved. The teacher B also provided a specific link for pupils who could not join the daily test.

Then, the total score of TCK was 75.0%. The technological tools employed by the teacher B were suitable with the learning materials. The teacher B had used some technological applications to support the online learning such as Zoom-meeting, smanda searching, Youtube, Canva, and WhatsApp group. The teacher highlighted internet integration technology so both teacher and pupils should connect to the internet in order to conduct the online learning and supported by those proper applications above.

Regarding that, in TPK element, the total score was 66.7%. The technological tools applied by the teacher B were suitable with the learning approach. First, the teacher B employed zoom-meeting as learning media and integrated with CLT (communicative language teaching) as the learning approach. Second, the use of smanda searching website also assisted the teacher B in conducting online discussion with pupils. Here, pupils were given an opportunity to ask some questions related with the learning materials.

Moreover, in the PCK element, the teacher B had score 66.7%. Here, the teacher B had selected the learning method which was suitable with the learning material. The teacher B employed role play as the technique to be practiced by the pupils and employed CLL (community language learning) as the learning method to do discussion in pairs about short dialogue.

At last, the total score of TPACK element in teacher B was 70.0%. First, the teacher B had selected technological tools which were suitable

with teacher's need in conveying the learning material. Second, the implementation of both learning approach and learning method to deliver learning material was quite good. Most of pupils could follow the classroom's instructions. Third, the teacher B could integrate technological tools, learning method and learning material which were implemented amid the online class. As the result, it emerged an effective and conducive online class, most of students could pass the standard minimum value, and all of trouble students were solved because the implementation of online learning was flexible.

### **The Manifestation of Teacher C's TPACK**

The total score of TK element was 81.3%. Actually, the teacher C had more experience on learning technology rather than the other teacher participants. The teacher C had an occupational background as the video editor before getting job as an English teacher. Thus, the teacher C was more selective in using some technological tools.

Next, the CK element of teacher C was 91.7%. The teacher C could convey the learning material properly and systematically. The teacher C also could comprehend the learning material. The learning material given was suitable with the lesson plan. Some relevant examples and exercises were given towards pupils to improve their understanding about learning material. Besides, providing feedback at the end of online class was also conducted by the teacher C.

After that, the PK element of teacher C was 92.9%. Some evidence related with PK could be seen through some actions such as the implementation of CLT (communicative language teaching) as the learning approach. Besides, the teacher C could control and manage the online class became conducive. All of pupils were trained to focus towards the teacher. Moreover, the teacher C controlled the students' understanding by having conversations as the reflective action to emerge two ways communication and enhance the learning quality.

In line with that, the total score of TPK element was 75.0%. The teacher C did not only emphasize on the online class by using internet

technology integration but also intended to generate an intensive learning. The teacher employed WhatsApp videocall to conduct the online class. It aimed not only to build close relationship between the teacher and pupils but also to enhance students' focus amid the online class. As the result, the teacher was easier in giving some feedback towards pupils and controlling their behavior amid the online learning process.

Then, the total score of TCK element was 75.0%. The technological tools used by the teacher C were suitable with the learning material. First, the teacher C employed smanda searching as the media to upload the learning material and did the discussion with pupils. Besides, the teacher also employed WhatsApp videocall to conduct further discussion and do learning practice towards pupils.

Regarding that, the percentage of PCK element was similar with the previous one. The teacher C had selected CLT (communicative language teaching) as the learning approach and TBLT (task-based language teaching) as the learning method. Here, the teacher did some discussion first to stimulate pupils about learning material. The teacher provided feedback and conveyed the material indirectly. Some relevant examples were provided. Then, questions and answers section was conducted. Pupils were asked to do some instructions. The teacher provided feedback again towards students' performance. Finally, both teacher and pupils concluded the learning material together.

At last, the total score of TPACK element in teacher C was 75.0%. Some evidence of TPACK implementation such as; first, the teacher had used the proper technological tools in conveying learning materials. The use of some technological tools which less internet consumed helped the pupils in decreasing their burden. Second, the teacher C selected learning approach and learning method which were appropriate with the learning material. The teacher C conducted an intensive class by implementing CLT and TBLT in the introduction as the learning material. Third, the integration between

the technological tools, the learning approach, and learning material were relevant.

**The Relation between Teacher Participants’ Self-Efficacy and TPACK Performance**

The manifestation of teacher participants’ self-efficacy and TPACK at SMA 2 Demak revealed some considerations. The result was all of them had different characteristics on their self-efficacy and TPACK. Those varieties represented their personality in teaching performance. Based on the statistical measurement, the total score of questionnaires in each variable (TPACK and self-efficacy) of teacher participants were different. The total questionnaire of TPACK was twenty-seven questions with the highest score 108. Meanwhile, the questionnaire of self-efficacy was fifteenth with the highest score 60. The detail scores were explained in table 4.

**Table 4.** The Total Score of Teacher Participants’ TPACK and Self-Efficacy

Variable s	Teacher			Highest Score
	A	B	C	
TPACK	69	74	90	108
Self-efficacy	39	51	50	60

  

Variable s	Teacher			Percentage
	A	B	C	
TPACK	63.9 %	68.5 %	83.3 %	100
Self-efficacy	65.0 %	85.0 %	83.3 %	100

It could be discussed that there were two main evidences that describe the relation between teacher participants’ self-efficacy and TPACK framework; first, the teacher participants’ self-efficacy could be influenced by some factors that affected on the successful level of teaching performance to implement TPACK framework; second, the sequential pattern of how teacher participants’ self-efficacy affected the teachers’ decision to implement the TPACK framework.

In the first evidence, some factors covered the teacher participants’ self-efficacy to implement TPACK framework include; the

amount of efforts the teachers had expended, the amount of school resources and environment the teachers received, and how was the teachers’ perception about the online learning. First, the amount of efforts the teacher had expended indicated that every teacher participants had different field of teaching. Both the teacher A and C were the experienced teachers who had broader experience in teaching than the novice teacher B. The present research revealed that teaching experience did not always indicate teacher participants having high CK and PK. It was irrelevant with Jang and Tsai (2013) who revealed that experienced teachers rated their CK and PK higher than novice teacher because experience teachers had longer teaching experience which means they practiced teaching more than novice teachers.

The second factor was the amount of school resources and environment the teachers received. There were some school resources and environment that supported the teacher participants at SMA 2 Demak to enhance their self-efficacy and implement TPACK framework such as seminar, someone’s persuasion, colleagues’ assistance, and school infrastructure. It was supported by Zonoubi et al. (2017) that supplying teachers with meetings (in-service training, fellow observation/assessment, development/improvement process, mentoring, and study groups) encouraged them to share their experiences and knowledge. By improving teachers’ competence, it encouraged their self-efficacy to produce enhancement on students’ achievement (Gultekin et al., 2020; Wu & Wang, 2015).

The third factor was the teachers’ perception about the online learning. By having more knowledge and experience completed with positive perspective (high knowledgeable), the teacher participants would have high self-efficacy to implement TPACK framework. The evidence was strengthened by Al-Abdullatif (2019) that the lower teachers’ knowledge about digital technology, the lower teachers’ confidence and TPACK integration amid teaching learning process.

Next, the second evidence was the sequential pattern of how teacher participants' self-efficacy affected the teachers' decision to implement the TPACK framework. First, the role of self-efficacy was changing the teacher participants' mindset that online learning was a difficult thing become an easier one, so the teacher participants' mindset growth positively. It enhanced the teacher participants' effort. Regarding that, the teachers determined further actions. By determining further actions, the teacher participants' self-agency was generated. Therefore, the teacher participants could examine their behavior such as arrange the classroom management, create proper lesson plan, and select appropriate technological tools.

## CONCLUSIONS

There are three conclusions based on the findings above. First, the variety of teacher participants' self-efficacy emerges the teacher participants' self-motivation. The teacher participants' self-efficacy emerges the personal agency of teachers so that they have a sense to act independently and decide everything based on their own choices. Therefore, by having positive perceptions, the teacher participants can encourage themselves to act positively or better than before. Thus, by having high self-efficacy, the teacher participants had high self-motivation in developing themselves as professional educators.

Second, the teacher participants' self-efficacy influences their TPACK. The teacher participants who had high self-efficacy encourage themselves to improve their self-development in having sufficient knowledge and skills to implement TPACK framework. Nevertheless, the teacher participants' self-efficacy is not only the main factor which influence their TPACK. Because TPACK consists of seven elements, it could be affected by some terms beyond self-efficacy such as the teacher B had high level of self-efficacy but an average level of TPACK because of the inability of teacher B to employ the variety technological tools amid the online learning. Third, there are some influential factors

on the successful level of teaching performance such as the amount of efforts the teachers had expended, the amount of school resources and environment the teachers receive, and how teachers' perception about the implementation of remote teaching.

The present research can be possibly used as one of the guidances for the teachers or lecturers to investigate their self-efficacy and TPACK so that they can adapt by avoiding some factors which decrease them. Besides, it can be possibly used as one of the references for further researchers who have similar interest related with those terms above. Besides, the teacher education and professional teacher development can employ this research as the guidance to construct some programs to develop teachers' self-efficacy and TPACK, so the teachers are qualified and the school's background become more stunning. There are still limitations on this research, therefore the further researchers are suggested to conduct larger research field supported by deeper analysis and some additional variables.

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