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JOURNAL METADATA

Publisher
Center for Research and Publication UIN Ar-Raniry , Indonesia

Other organisation
Universitas Islam Negeri Ar-Raniry

Manuscripts accepted in
English

LCC subjects
Education: Special aspects of education
Language and Literature: English language

Keywords
english language teaching
curriculum
language learning
sociolinguistics
applied linguistics

Added 8 March 2018 • Updated 8 March 2018

ENGLISIA : JOURNAL OF LANGUAGE, EDUCATION, AND HUMANITIES

PROGRAM STUDI PENDIDIKAN BAHASA INGGRIS, FAKULTAS TARBIYAH DAN KEGURUAN, UNIVERSITAS ISLAM NEGERI AR-RANIRY

P-ISSN : 23392576 E-ISSN : 25276484 Subject Area : Education

0
Impact

1519
Google Citations

Sinta 2
Current Acreditation

Google Scholar Garuda Website Editor URL

History Accreditation

2017 2018 2019 2020 2021 2022 2023 2024 2025

Garuda Google Scholar

Publication Not Found

ISSN 2338-2376
ISSN-L 2527-6654

Vol. 4, No. 2, May 2017

Englisia

Journal of Language, Education and Humanities

Englisia Journal of Language, Education, and Humanities

Englisia : Journal of Language, Education, and Humanities

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Englisia Journal of Language, Education, and Humanities

Englisia : Journal of Language, Education, and Humanities

Vol. 10 No. 1 (2022)

Published: 2022-11-01

Article

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Englisia: Journal of Language, Education, and Humanities
November 2022. Vol. 10, No.1, 182-201

Self-efficacy beliefs of English teachers from non-educational backgrounds towards TPACK: An insight from Indonesia

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Manuscript received March 24, 2022, revised April 18, 2022, accepted June 16, 2022, and published online November 7, 2022.

Recommended APA Citation
Noviani, S., & Kuswandono, P. (2022). Self-efficacy beliefs of English teachers from non-educational backgrounds towards TPACK: An insight from Indonesia. *Englisia: Journal of Language, Education, and Humanities, 10*(1), 182-201. https://doi.org/10.22373/ej.v10i1.12935

ABSTRACT

This research investigates how English teachers with a non-English educational background demonstrate their self-efficacy beliefs on the technological pedagogical content knowledge (TPACK) toward their professional practices. The data was obtained from 18 teachers from a non-English educational background in formal and informal Indonesian education settings. Those teachers undertook strategies to develop the technological pedagogical content knowledge (TPACK) while managing their self-efficacy beliefs. Employing a mixed-method research approach, this study gathered the data using closed-ended and open-ended questionnaires, individual interviews, and in-depth interviews. Responses revealed that 18 participants completed a 5-item Likert-type survey measuring the level of teachers' TPACK self-efficacy. The survey measures the three major aspects of TPACK mean value for teachers' technological knowledge (TK) ($\bar{X}$=23.55) and pedagogical knowledge (PK) ($\bar{X}$=19.55), both of which are relatively higher than the value of the content knowledge (CK) ($\bar{X}$=16). The dominant factor affecting the high percentage in those two aspects emanates from the teachers' persistent accounts that they need to be independent in learning while constantly updating their knowledge. This research also discusses the suggestion for future research studies for developing teachers' TPACK self-efficacy.

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Keywords: *Technological pedagogical content knowledge (TPACK); Self-efficacy; English teaching; Technology integration; Non-English education background*

1. Introduction

The increasing availability of technologies has heavily impacted the majority of the teachers' daily routines in carrying out their professional work. Indeed, the changes in technology have brought extensive new paradigms and alternative forms in performing the teaching and learning process. In contrast, the present condition may have serious gaps in the ideal vision of the educational system itself. The concrete examples of such gaps arise from teachers' problems in integrating technology in their teaching. Teachers are required to explore the kinds of technological tools, but not comprehensively master the tools and can practically implement them into the praxis in the learning process (Mishra & Koehler, 2006). In other words, teachers' educational technological practices reveal the inadequate skills to impart digital literacy. Accordingly, most teachers still assess their digital literacy poorly. Under this condition, in succeeding thin e implementation of educational tools in the classroom, positive self-efficacy and confidence as well as a positive attitude toward the technology are needed (Zimmermann, Melle, & Huwer, 2021).

Thus, competencies, experience, and qualifications are considered the key roles in building teachers' capacity in planning and maintaining teaching and learning activities in the classroom. As the early key proponent for TPACK, Shulman (1986) argues that being a teacher is considered a well-regarded job requiring an extensive repertoire of subject matter knowledge as the basis for the qualified teacher concept. Moreover, teachers have to undergo the complexity in the teaching process and have to deliver various complex information in different forms in much simpler ways (Mishra & Koehler, 2006). Facing the 21st learning environment, teachers are expected to accelerate their skills to fulfill the higher competencies (Kiray, 2016). Accordingly, under Mishra and Koehler's (2006) framework, the dimension of technical knowledge has been considered an important element that teachers must preserve. In contrast, the lack of teachers' multimodal literacy (ability to interpret the texts, construct the texts, and communicate within the social context) blocked their capacity in obtaining the literacy of information and communication technology for preparing students for the 21st-century learning environment (Tan, Yang, Koh, & Jonathan, 2016).

In the Indonesia context, The Indonesian Ministry of education (MoNE) has mentioned that Indonesian teachers need to quickly open the possibility of integrating Information and Communication Technology (ICT) in the teaching and learning process (Ministry of National Education, 2007a; Ministry of National Education, 2007b; Ministry of National Education, 2009). To support the ICT integration, MoNE has managed to provide ICT infrastructure in many public schools (Ministry of National Education, 2010) by providing schools with computers, internet connections, and online

learning content. However, the regulations emerged before the pandemic struck and was not directly followed by the implementation of online classes in all Indonesian schools and universities. Only after the pandemic struck, all institutions and schools, especially those from high-risk areas, were obligated to implement distance or online learning (Agustina, Matra, & Karimah, 2020).

Unfortunately, due to some circumstances, the growing popularity of computer-based activities is widely expected to produce more digitally literate teachers. In this present study, the researchers found the teachers' willingness in integrating the technology into teaching is related to teacher TK (technological knowledge) and self-efficacy beliefs on technology use (Ertmer, & Ottenbreit-Leftwich, 2010; Ottenbreit-Leftwich, Glazewski, Newby, & Ertmer, 2010; Abbitt, 2011). In particular, self-efficacy is the most powerful aspect that contributes to teachers' behavior (Henson, 2001; Tschannen & Woolfolk, 2001). Teachers who have higher self-efficacy were more likely to utilize advanced instructional methods in the teaching and learning process (Henson, 2001). More specifically, a teacher's belief in TPACK is a pivotal aspect since a teacher's belief about their capability to use technology represents how they effectively and efficiently use the technology (Lee & Tsai, 2010).

A large number of empirical studies have focused on the relationships between TPACK self-efficacy and technological integration in an educational context (Bakar, Maat, & Rosli, 2020; Gilkes, 2020). These studies paid attention to the significant influence of TPACK on teachers' self-efficacy and their purpose to use technology. It is critical to examine how teachers' self-efficacy belief toward TPACK can raise teachers' interests, confidence, and competence in technology use. However, in Indonesia, there are a lot of cases where English teachers may not have an English education background, especially those who work in private schools and institutions. Such cases were investigated by Nagauleng (2018), focusing on the English teachers' or lecturers' competence in teaching the English language with non-English educational backgrounds. This study demonstrated that English lecturers from non-educational backgrounds were able to improve students' English proficiency as the lecturer includes the competencies in pedagogical, personal, social, and professional capabilities. Since most studies only discussed English teachers with English education backgrounds, this phenomenon is worth studying.

Based on Law No. 14 the Year 2005 on Teachers and Lecturers stated that professional teachers should have academic qualifications, competence, and a teaching certificate, be physically and mentally healthy, and have the ability to achieve national education goals. To achieve the certification as a teacher as stipulated in Government Regulation (PP) No. 74 of 2008, the certification can be done through Teacher Professional Education Program or often known as the PPG program. Moreover, this policy not only helps education graduates to use as a stepping-stone but also a wide door of opportunity for non-education graduates who are interested in teaching.

The purpose of this study is to identify the factors that influence the intention in using technology including TPACK and teacher self-efficacy, for English teachers with non-English education backgrounds who need to be able to integrate the knowledge of teaching, content, and technology into the latest Indonesian educational context. Additionally, this current study implies that developing and improving TPACK plays an important job in supporting English teachers to utilize and integrate technology in the educational context effectively and efficiently. Therefore, the research questions that lead the research are as follows: (1) what is the TPACK self-efficacy level of the English teacher from non- Educational department? (2) what are the influencing factors of each level?

2. Literature review

2.1. Technological pedagogical content knowledge (TPACK)

The concept of pedagogical content knowledge (PCK) was first introduced by Shulman in (1986) which is described as a concept of teachers' matter subject knowledge with their pedagogical knowledge. Within Shulman's perspective in teacher education that changes the measurement of teachers' qualities, it is an obligation that teachers have to master not only content and pedagogical knowledge but also the combination of both. As technology has changed rapidly and become an integral part of people's lives, Mishra and Koehler (2006) supported Shulman's frame and stated that technology cannot be separated from pedagogical content knowledge (PCK). In response to this, Technological Pedagogical Content Knowledge (TPACK) is a framework that is designed on how teachers demonstrate their ability in collaborating the educational technologies and PCK to produce effective teaching with technology (Bostancıoğlu & Handley, 2018).

Shulman has mentioned that the teacher's knowledge and ability to teach the materials are critical factors in students' learning. However, the three major knowledge that teachers have learned in teacher education since 1987 are (a) subject matter content knowledge, (b) pedagogical content knowledge, and (c) curricular knowledge. The subject matter knowledge includes the body of the knowledge that is expected to be taught by teachers. Pedagogical content knowledge is the knowledge of transferring the specific subject knowledge more easily or difficultly to understand. Then curricular knowledge is designed for the subject and pedagogical matter (Shulman, 1986; Mishra & Koehler, 2006) as described in the following figure.

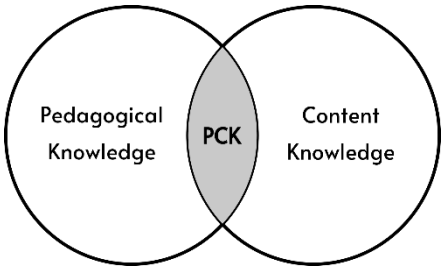

Figure 1. Early graphical representation of Shulman's pedagogical content knowledge framework

These three combinations make the learning possible for creating valuable learning experiences and lessons that are relevant to the students and that align with the placement and implementation of those lessons within the overall structure of the curriculum. Shulman (1986) believed that teachers' action within this pedagogical content knowledge is aimed at maximizing the learning experiences. However, as Shulman's foundation offers a solid foundation for comprehending the pedagogical-content knowledge in the past, elaborations in instructional technology need to be added to reconceptualize the previous framework. This need resulted in a revised framework that includes the new digital resources in instruction design and its function in building an effective learning environment (Cherner & Smith, 2016).

Building from Shulman's (1986) framework for pedagogical content knowledge, Mishra and Koehler (2006) added a new dimension of technological knowledge and demonstrates types of teacher knowledge that can be obtained from the integration of technological, pedagogical, and content knowledge. The seven integrated forms of teacher knowledge from Kiray (2016), are pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK), and technological pedagogical content knowledge (TPACK). According to Kiray (2016), together with technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK), these seven kinds of knowledge build up the TPACK framework as follows:

1. Technological Knowledge (TK): This stands for teachers' general knowledge of technology that also incorporates the ability to utilize the various technologies, technological tools, and related resources.
2. Pedagogical Knowledge (PK): This stands for teachers' general knowledge of delivering the materials in the learning environment. In addition, this knowledge includes teaching strategies, approaches, and methods that can accommodate students' learning experiences and assess their understanding.
3. Content Knowledge (CK): Within this knowledge, the teacher is required to have sufficient knowledge of the subject that is being taught. Therefore, teachers need to understand the basic concept and the nature of the knowledge.

4. Pedagogical Content Knowledge (PCK): This knowledge should be mastered as it represents the knowledge of teaching a particular subject with certain pedagogical strategies.
5. Technological Content Knowledge (TCK): Teachers need to possess the ability to integrate subject matter with technical knowledge.
6. Technological Pedagogical Knowledge (TPK): This knowledge is associated with utilizing technology effectively to succeed in the teaching performance and enhance students' learning experience.
7. Technological Pedagogical Content Knowledge (TPACK): This knowledge is a great combination of technological, content, and pedagogical knowledge. It is related to PCK, TPK, and TCK.

Within this theoretical model of TPACK, it is believed that the knowledge of CK, PK, and TK is inseparable and acts interactively, not independently of each other (Mishra & Koehler, 2008). In the light of TPACK, a teacher is required to select the most desirable technological tools that can be used in teaching the subject matter, understand how the determined technologies can give impact students' learning process, and have knowledge on how and when integrating the technology into a learning process by taking into consideration of students' prior knowledge, students' upcoming problems and students' misconceptions that they bring (Baran & Canbazoğlu-Bilici, 2015). However, these frameworks have implications for three main aspects of teachers' knowledge that builds up into seven integrated aspects of knowledge to develop an effective and efficient learning environment. Thereby, investigating teachers' level of knowledge of those seven aspects is a way to ensure their understanding of each of the aspects.

2.2. Technology and teacher efficacy

Self-efficacy is essential to help someone in making decisions and also to allow someone to present a certain attitude in the teaching arena. Bandura (1997) stated that self-efficacy is a belief to adopt and manage certain acts in attaining certain tasks. It may influence how people think, feel, motivate themselves and act (Bandura, 1999). There is an assumption that the higher self-efficacy is, the more positive encouragement is. It is also believed that having low self-efficacy might affect the decision-making process.

The use of different levels of technology integration in the classroom ultimately depends on the teacher (Jimoyiannis & Komis, 2006). Given teachers' self-efficacy in integrating technology, the teachers need to have the capacity in performing teaching with effective technology (Wang, Ertmer, & Newby, 2004). It is also considered to be the teachers' self-efficacy belief in using educational technology in the teaching and learning process (Lee, Lee, & Bong, 2014). This belief contributes to the teacher's performance during the class since it highly focuses on the confidence and belief to

integrate the technology rather than the ability to integrate the technology. The teachers' self-efficacy belief most probably uses educational technology to activate students' participation even among unmotivated students, during which the learning process can gain the desired results (Tschannen & Woolfolk, 2001). The important point concerns the behavior shown by the teachers namely acceptance in rejection of technology. Those who accept technology tend to prepare for the use of technology well and conversely those who reject it tend to avoid the technology (Lailiyah & Cahyono, 2017).

However, the reflections on self-efficacy on technological tools may happen during the class session. Teachers with strong self-efficacy beliefs are required to have different teaching techniques by adopting a student-centered. On the contrary, teachers with low self-efficacy have a more teacher-centered style during the learning and teaching process (Henson, 2001; Milner & Hoy, 2003; Perkmen & Pamuk, 2011). Therefore, technology integration self-efficacy beliefs are considered to be the prerequisite of the effective learning process. In this context, it is necessary for to teachers have competencies in making meaning of these technologies and consequently, the learning plan should integrate educational technology (Çoklar, Kılıçer, & Odabaşı, 2007).

The goal of this current study is to investigate the self-efficacy beliefs on technological tools of English teachers with non-English Education Department backgrounds. The teachers' self-efficacy beliefs also represent some factors in the three levels of TPACK, namely pedagogical knowledge (PK), content knowledge (CK), and technological knowledge (TK). Within these framework levels, the teachers' self-efficacy belief is counted as the main point supporting their level of TPACK.

3. Method

3.1. Research context and design

This research employed a mixed-method design to help the researchers to gain deeper information on the topic area being discussed (Hoover & Krishnamurti, 2010). This method helped to explore the findings and to provide sufficient evidence by covering the shortcomings of using a single approach (Albert et al., 2009; Bryman, 2004; Caruth, 2013; Creswell & Plano, 2011; Tashakkori & Creswell, 2008). This study undertook a sequential explanatory design in which the data were collected for two consecutive phases. The mixed-method sequential explanatory design consists of two distinct phases, namely quantitative followed by qualitative (Creswell, 2003). In this design, the researchers first collected and analyzed the quantitative (numeric) data. The qualitative (text) data were collected and analyzed in the second phase as it helps to explain the quantitative results obtained in the first phase. The second phase, in qualitative data, is built based on the first phase and those two phases are connected in the intermediate stage of the study. The rationale of this approach is that the quantitative data and the following analysis provide a general understanding of the research question. The qualitative data and their analysis clarify and elaborate the statistical

results by viewing participants' perspectives in more depth (Creswell, 2003; Rossman & Wilson, 1985; Tashakkori & Teddlie, 1998).

3.2. Data collection and analysis

3.2.1. Quantitative phase

The goal of the quantitative phase was to identify the potential dimension in TPACK self-efficacy in the English teachers from the non-Educational department background. The researchers collected the quantitative data via Google form, using an adapted questionnaire from Canbazoğlu Bilici, et. al., (2013). The core survey items formed five-point Likert scales and followed a mixed variable representing the TPACK major components (technological, pedagogical, and content knowledge) and the self-efficacy aspect of TPACK. The teacher's technological knowledge development involves whether the teacher can prepare ideal learning models and learning activities in the English language by utilizing technology or not. The pedagogical and content knowledge is about whether the teachers have good knowledge and ability in classroom management and can integrate the four basic language skills interactively. The researchers identified the highest, average, and lowest scores of the dimensions in the TPACK self-efficacy. Next, the researchers did the reliability of the survey scale items using frequency factor analysis.

The purposive sampling procedure based on specific criteria was used to select the participants. The criteria for selecting the participants for the quantitative phase included the followings factors: (1) coming from a non-Educational background; (2) having at least two years of teaching experience in an informal and a formal institution; (3) experiencing the transition the offline to the online teaching environment. The typical participants were 25 and 27 years of age, all of them coincidently are women, employed full-time, 4 of them works for formal education in primary and secondary private school and 3 of them works for informal language course institutions, mostly from Yogyakarta, and around Jakarta. The ethical protocols of the research were addressed by communicating the explanatory statements and consent form of the research to the prospective participants. When they agreed to join the research voluntarily, the researcher invited them to participate through WhatsApp messages. Eighteen English teachers responded to fill in the questionnaire and eight of them followed the in-depth interviews. The in-depth interviews were done as the researcher wanted to get detailed information about the participants' extended thoughts about TPACK efficacy beliefs.

3.2.2 *Qualitative phase*

For this phase, the researchers purposefully selected seven participants from those who have completed the survey. The seven participants participated voluntarily when they saw that the research timing fitted their teaching schedule and personal agenda. To give the richness and depth of the data description (Creswell, 2013; Stake,

2010), the researchers used some sources for collecting the data: (1) in-depth semi-structured interview using WhatsApp call with seven participants; (2) Follow-up interview using WhatsApp messages and voice notes with each participant to secure additional information; (3) The responses of open-ended and close-ended questions on the survey. Next, the researchers audiotaped and did a non-verbatim transcript of the seven interviews. In analyzing the results, a two-stage coding model (Miles & Huberman, 1984; Miles, 2014) was applied. In the first cycle of coding, the researcher coded the interview results independently and in the second cycle, the initial codes were organized and built into some categories. Finally, the labels of those coding were categorized based on the three big themes in the TPACK (content, technology, and pedagogical knowledge). The three main big themes were selected intentionally following the results of the quantitative data.

4. Findings

A reliability test is done for measuring the error in the questionnaire. Reliability is the consistency of measurement results if the testing procedure is carried out repeatedly on a population of individuals or groups (Supratiknya, 2014). Then the data from items that have been scored were calculated and analyzed using Cronbach's Alpha coefficient (Supratiknya, 2014). The reliability coefficient ranges from 0 to 1 (Azwar, 2009). The closer the score to 1, the better the reliability of the measuring instrument. According to Hair, Black, Babin, and Anderson (2010), the reliability testing is considered reliable if the value of Cronbach Alpha > 0.4. Below is the reliability per dimension:

Table 1
Reliability statistics.

No	Aspects	Cronbach's Alpha	N of Items
1	Pedagogical Knowledge	,590	5
2	Content Knowledge	,640	2
3	Technological Knowledge	,896	6

Based on the table 1 above, the reliability of the pedagogical knowledge dimension has an alpha coefficient of 0,590. Meanwhile, for content knowledge dimension has an alpha coefficient of 0,640 and the technological knowledge dimension

has an alpha coefficient of 0,896. It can be concluded that the three dimensions above are reliable because they have a score above 0.40.

Table 2
Mean of the data.

Aspects		N	Minimum	Maximum	Sum	Mean	Std. Deviation
Pedagogical Knowledge	X_Total	18	16.00	23.00	352.00	19.5556	2.17532
Content Knowledge	Y_Total	18	6.00	10.00	147.00	8.1667	.85749
Technological Knowledge	Z_Total	18	18.00	30.00	424.00	23.5556	2.74874

The table 2 above demonstrates the descriptive statistics for the three main components in TPACK showing mean scores, standard deviations, and the minimum-maximum values. The mean scores show differences in each component. The mean scores of the technological knowledge and pedagogical knowledge aspect are the highest mean among the three, that is TK (M=23.55) and PK (M=19.55). This indicates that the participants regard technological knowledge (TK) and pedagogical knowledge (PK) as more important than content knowledge (CK). As indicated above, the mean score of CK is 8,16, which is the lowest mean compared to the others. This implies that teachers' technological knowledge and pedagogical knowledge are higher than the content knowledge for teaching English. The standard deviation for the three elements was varied starting from below 1 and varied between 0.85 to 2.74, which indicates that the data points are all relatively consistent.

Next, the data presentation demonstrates the level of the English Teachers' TPACK Self-efficacy in the three areas.

Table 3
Pedagogical knowledge aspect.

No	Range	Frequency	Percentage	Category
1	5-12	0	0%	Low
2	13-20	14	77,7 %	Medium
3	21-25	4	22,3 %	High

* ***The rating information is adapted from score interpretation criteria***

The researchers divided Table 3 into three major criteria in pedagogical aspects: low, medium, and high. Based on the table above, the researchers found that there are

no teachers who have low pedagogical knowledge (n=0). A total of 77% of the teachers have an average or medium pedagogical knowledge. On the other hand, the percentage of teachers with high pedagogical abilities is 22.3% (n=4). The quantitative results obtained from the TPACK scale, on the aspect of showing the teacher's pedagogical ability from moderate to high.

4.1. The urge of renewing the teaching approach

Referring to the level of pedagogical knowledge in Table 3, some teachers share some factors related to their high and average levels of pedagogical knowledge. The main factors that contribute to a huge change in teachers' pedagogical knowledgeability are by learning from their previous teaching experience, adopting senior teachers' teaching knowledge and approaches, and doing a teaching reflection. Since all of the participants come from English Literature Department, they did not have a chance to get the basic knowledge of teaching from their undergraduate degree study. Most of the participants agreed that the best way to survive from teaching at an early stage is to do the trial-error and adapt some methods introduced by the seniors (Teacher 8, I-EQ). The other teacher also added that the factor influencing her level of teaching ability is about willingness on being creative in delivering the material to students by recognizing students' ability of processing materials.

> Since my previous learning experience from school is different from my students' condition right now, I have to understand more about how they think and process information. I also often ask my students whether the material that I made is clear enough. This helps me to reflect and evaluate my teaching performances. …. Besides that, I never do a textbook approach, I always do my way to present the material. (Teacher 5, I-EQ)

From the statements above, the researchers found that the development of their teaching ability comes from their initiative to create a better learning environment for students. Thus, the teachers can be innovative and creative even though their educational background did not provide enough experience in teaching.

4.2. Equal opportunities and treatment from institutions

Since they have equal treatment and opportunities, they can show the same qualities in teaching. Most teachers agree that the teachers with English education backgrounds are accustomed to some academic documents for teaching (e.g., lesson plans, records of work, and progress records) while the non-English education teachers do not. However, the institution gives the same amount of opportunities in terms of teaching at any level provided in their institution. The aim of this policy is for familiarizing them with the teaching environment and for giving them the freedom to develop their teaching skills. As one of the teachers mentioned, before teaching the

particular classes, she always gets training from the institution where she works at. Another point to mention is that the previous educational background does not affect the teaching performance, in terms of knowledge in English and teaching performance, between the non-English Education Department and the English education graduates are equally the same (Teacher 10, I-EQ). However, a similar condition is found by Teacher 6. She confirmed that the non-English Department teachers are entrusted to teach at a higher level and have the capability in capturing students' needs during learning.

> I think we get the same opportunities in terms of teaching some grades at the elementary level. I think that sometimes, I give a better explanation to my students compared to those teachers from the education department. When explaining the sentence pattern, they tend to only ask the students to follow the example only. But for me, I usually explain it in detail. I provide the example and give them an understanding of how to put the noun, verb, and adjective, in the right place. Even in my school, most teachers come from an English literature background and usually, they teach upper levels. Take an example, one of my friends is a Cambridge English Assessor and she teaches in grade 6. Meanwhile, the teachers from the education department are mostly placed in lower grade level. (Teacher 6, I-Q)

From these teachers' statements above, it can be concluded that the opportunities from the institutions help them to develop their teaching skills. Besides, those teachers believe that the non-English Education Department can learn pedagogical praxis on condition that they are provided equal opportunities to develop their teaching competencies in comparison to those graduating from English Education Department. Hence, from their experience, any teacher from any background can develop a teaching skill if he/she wants to.

Table 4
Content knowledge aspect.

Range	Frequency	Percentage	Category
2-6	1	5,5 %	Low
7-10	17	94,4 %	High

From the table 4 above, the researchers found that there is only one teacher (n=1) that has low content knowledge meanwhile the other teachers have a high percentage in this aspect. A total of 94,4% of teachers have high content knowledge. Moreover, the only teacher that has low content knowledge holds a 5,5% percentage. Through this aspect that is obtained with the TPACK scale, the content knowledge is ranging from low to high.

4.3. Strong basic skills

Some teachers commented that to teach and to take the job as a passion, a teacher needs to master the material first and be comfortable with the material that they teach. If a teacher is confident enough with the knowledge they have, they will perform the teaching well. The two teachers stated that the valuable learning experience during undergraduate degree helps them to know the material by heart and become their unique strength in constructing particular material (e.g. creating parody script for online performance) (Teacher 10, I-Q; Teacher 6, I-Q). Besides the basic knowledge, the current policy announced by the government should be understood when teaching in formal education. This is reflected in the following quotation "To cope with that I equip myself with the latest materials given by The Ministry of Education and Culture with some modification that suits my students' needs." (Teacher 5, I-Q).

Through the teachers' statements, teachers' interest, willingness to update the materials, and previous educational experience create a strong English skill for teaching.

Table 5
Technological knowledge aspect.

Range	Frequency	Percentage	Category
6-15	0	0 %	Low
16-25	16	88,8 %	Medium
26-30	2	11,1%	High

From the technological aspect, the table above shows that there are no teachers who have low technological knowledge (n=0). In addition, the researchers found that a total of 88.8% of the teachers have moderate technological knowledge. Hence, the percentage of teachers with high technological knowledge is 11,1% (n=2). The quantitative result here shows teachers' technological knowledge from moderate to high. Nevertheless, the scope of this research does not specify the factors influencing each TPACK knowledge level.

4.4. Becoming an innovative teacher: Adapting with technology

From the seven interviews, it is highly suggested that to be a teacher, someone is willing to be a lifelong learner. In becoming the one, someone has to have the desire to understand and explore the knowledge that helps them grow and develop. In this case, to provide an innovative learning environment for students, teachers need to be aware of learning styles, supportive educational tools, and skills that make them innovative educators. Almost all of the teachers agree that a teacher needs to be updated with the technology. Besides, following teaching training also helps the teachers to recognize the

various kinds of learning platforms better so that they can choose the most accessible platform that suits the students and for supporting the learning material (Teacher 6, I-EQ**)**. Another teacher also added that choosing a teaching career requires them to continuously do extra research, especially on the latest educational tools. Otherwise, they will block their career path.

> I also think that in terms of mastering technological tools, between the teachers with English education background is the same with the non-English education background. I believe if a person is technology literate, he might be able to find a way to keep updated with the latest educational tools for teaching. But English Education graduates also can have higher technical knowledge if they still read some journals related with technological tools. (Teacher 8, I-EQ)

> I used to have a friend from (Primary School Teacher Education) PGSD background but now she has already resigned. Maybe it is because of her age, she cannot deal with modern technology and she gave up on her job. (Teacher 6, I-Q)

The statements above prove that teaching requires them to adapt their practices and to be creative as it can engage students and stimulate their active participation during learning.

5. Discussion

The main purpose of this study is to describe the levels of self-efficacy on three main aspects in TPACK (pedagogical, technological, and content knowledge) of English teachers with non-English Department backgrounds and also factors that contribute to each level on three main aspects. The following is the discussion of the result, as well as the implications, of this study.

First, the finding is in accordance with the theory by Shulman (1986) that self-efficacy will give an impact on teachers' pedagogical content knowledge. This theory is in line with the study conducted by Milner and Hoy (2003) that is about how self-efficacy affects teachers' TPACK. Interestingly, the participants in this study, believed that they have a high rate of self-efficacy almost in all three major domains of TPACK. It is informed that (technological knowledge) TK and (pedagogical knowledge) PK as of the two highest scores obtained by teachers with mean value ($\bar{X} = 23.55$) and ($\bar{X} = 19.55$), followed by (content knowledge) CK for ($\bar{X} = 16$). The result of this study gives a new dimension in comparison to the result of several studies conducted in the past in the context of pre-service and in-service teachers (e.g., Gonzales, 2018; Sojanah et al., 2021; Yulianti et al., 2021). However, as far as this study is concerned, it is one of the first known studies to attentively explain the factors that investigate the levels of three main domains in TPACK (PK, CK, and TK) self-efficacy of English teachers with a non-English Education background. Most other studies focus on

measuring the TPACK self-efficacy in general and the factors that build up the pre-service and in-service teachers' TPACK self-efficacy from non-English language subjects. Comparatively, this research offers a new dimension of the English teachers with non-English education backgrounds having a relatively high level of TPACK self-efficacy and the factors that build up their TPACK self-efficacy.

The data presented in Table 3 show that among 18 teachers, the level of self-efficacy in pedagogical knowledge is 77,7% (n=14) at a medium level, meanwhile, the others are at a high level which is 22,3%. In line with the pedagogical knowledge aspect, teachers must equip themselves with the knowledge of students' way of learning, classroom management skills, lesson planning, and student assessment. In other words, teachers should have the ability to select the suitable techniques or methods in the classroom, know the nature of the students, and choose the most effective evaluation form for students (Koehler, Mishra, & Cain, 2013). Despite the unique background of the participants who never got workshops and teacher education courses during their undergraduate study, they manage to survive from teaching in the early stage. Most of the teachers agreed that in choosing the best teaching method, they adapted and adopted the method given by seniors and did some trial-error by learning the nature of the classroom. Besides that, as Bandura (1997) mentioned, the strongest antecedents of self-efficacy can result from teaching experience. This occurred to these teachers as they coped with their teaching experience for their future teaching performance. The last is the equal opportunity given by the workplace is another fortunate factor that built up their pedagogical knowledge. As they got the same proportion of classes compare to those who came from English education department, the specific pre-teaching training also helped them to become qualified teacher.

Furthermore, for the content knowledge, the specific data revealed that 17 participants got a high level of self-efficacy in this aspect with a percentage of 94,4%, and only 1 of the participants showed a low level of content knowledge aspect with a percentage of 5,5%. The high aspect of content knowledge happened since the teachers agreed that the subject is a part of their passion and they benefit from their previous learning experience during the undergraduate study for building a solid foundation of subject knowledge. This statement matched with Shulman's statement (1986) that teachers must have deeper fundamentals of subject knowledge they teach which also includes the knowledge of scientific facts, concepts, theories, scientific method, and the rules of giving evidence while reasoning. It is seen that without having a comprehensive base of content knowledge, teachers will potentially create misconceptions of the subject knowledge for students in the future.

The last point presented in Table 5 is for technological knowledge. It is stated that 16 out of 18 participants got a medium level of self-efficacy in technological knowledge with a percentage of 88,8%. The 2 other teachers got a high level of self-efficacy with a percentage of 11%. The reason behind this quite high percentage is that the teachers can adapt to the current technological tools for teaching. It is necessary for

all educators at any level to understand the role of technological knowledge and self-efficacy in students' learning experiences. Because this knowledge prepares the educators to guide the students in using technology for a better experience in the global social networking in which we live (Johnson, 2009; U.S. Department of Education, 2010). Along with the times, teachers are forced to fit in the demand of the new learning experiences that make them learn more about educational tools that suit their students best. The teachers who can survive are those who do not only tend to look at the technology but the teachers who understand the assignment by appropriately incorporating technology into their teaching process (International Society for Technology in Education, 2000; National Council for Accreditation of Teacher Education, 1997; U.S. Congress, 1995; U.S. Department of Education and Statistics, 2003; Zhao & Frank, 2003). To sum up, it is clear that as teachers the primary focus should be on studying technology.

6. Conclusion

This research has investigated two significant factors of teachers' self-efficacy beliefs, namely: the self-efficacy level of the English Letters graduates on TPACK and the influential factors perceived by those teachers in using technology for learning. The findings of the study inform significant and in-depth insights into the development of English teachers with non-English educational backgrounds' TPACK (Pedagogical, Content, and Technological knowledge) and the factors that influence that support their development. Both qualitative and quantitative reveal that being a teacher without an educational background brings them a lot of challenges and opportunities to learn new knowledge areas.

The average percentage of technological and pedagogical knowledge is related to the challenges that they face in becoming a teacher. The level of teachers' technological knowledge ($\bar{X} = 23.55$) and pedagogical knowledge ($\bar{X} = 19.55$) from the mean values are greater than the content knowledge ($\bar{X} = 8.16$). However, some important points that can be highlighted in their development process are the external factor from the institution that supports their development in terms of teaching and their attitude of being resilient in facing challenges during teaching. The influential factors perceived by those teachers in using the technology during the learning process are the need to constantly renew the teaching approach, the given equal opportunities to grow as a non-education background English teacher, the strong basic skills, and the principle of being an innovative teacher.

Becoming a teacher can be a promising career for anyone as long as they are willing to invest their time in learning. Those who already got the privilege of being trained as a teacher still need to update their teaching knowledge as well. Thus, the English Language Education Program should also promote more suitable teaching programs and training that can close the gap between the future English teachers, both coming from the education or non-education background. As the study was limited to

investigating the TPACK self-efficacy levels, the factors influencing teachers' self-efficacy belief in their TPACK mastery are still worth researching, especially investigating the strategies, assessment, and improvement of their efficacy beliefs.

References

Abbitt, J. (2011). An investigation of the relationship between self-efficacy beliefs about technology integration and technological pedagogical content knowledge (TPACK) among preservice teachers. *Journal of Digital Learning in Teacher Education*, *27*(4), 134-143.

Agustina, D., Matra, S. D., & Karimah, S. (2020). Challenges of having online learning activities: University students' perspectives. *INELTAL Conference Proceedings The International English Language Teachers and Lecturers Conference 2020*, *August*, 9–14.

Albert, N. M., Trochelman, K., Meyer, K. H., & Nutter, B. (2009). Characteristics associated with racial disparities in illness beliefs of patients with heart failure. *Behavioral Medicine*, *35*(4),112-125. https://doi.org/10.1080/08964280903334519.

Bakar, N. S. A., Maat, S. M., & Rosli, R. (2020). Mathematics teacher's self-efficacy of technology integration and technological pedagogical content knowledge. *Journal on Mathematics Education*, *11*(2), 259-276. https://doi.org/10.22342/jme.11.2.10818.

Bandura, A. (1997a). *Self efficacy: The exercise of control*. New York: W.H. Freeman & Company.

Bandura, A. (1999a). *A social cognitive theory of personality* (Reprinted). In L. Pervin & O. John (Eds.), *Handbook of personality* (2nd. ed., pp. 154-196). New York: Guilford Publications.

Baran, E., & Canbazoğlu-Bilici, S. (2015). A review of the research on technological pedagogical content knowledge: The case of Turkey. *Hacettepe Egitim Dergisi*, *30*(1), 15-32.

Bostancıoğlu, A., & Handley, Z. (2018). Developing and validating a questionnaire for evaluating the EFL 'total package': Technological pedagogical content knowledge (TPACK) for English as a foreign language (EFL). *Computer Assisted Language Learning*, *31*(5–6), 572-598. https://doi.org/10.1080/09588221.2017.1422524.

Bryman, A. (2004). Research methods and organisation studies. *Unwin Hyman Ltd*.

Canbazoğlu-Bilici, S., Yamak, H., Kavak, N., Selcen, G. S., Bilici, C., & Guzey, N. (2013). Technological pedagogical content knowledge self-efficacy scale (TPACK-SeS) for pre-service science teachers: Construction, validation, and reliability suggested citation. *Eurasian Journal of Educational Research*, *52*. 37-60.

Caruth, G. D. (2013). Demystifying mixed methods research design: A review of the literature. *Melvana International Journal of Education, 3*(2), 112-122.

Cherner, T., & Smith, D. (2016). Reconceptualizing TPACK to meet the needs of twenty-first-century education. *The New Educator*, *13*(4), 329-349. doi:10.1080/1547688x.2015.1063744.

Çoklar, A. N., Kılıçer, K., & Odabaşı, H. F. (2007). A critical view to technology usage in education: Technopedagogy. *In 7th International Educational Technology Conference Proceedings Book, (Pp. 69–75), Near East University, North Cyprus*.

Creswell, J. W., & Plano, V. L. (2011). Designing and conducting mixed methods research (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2013). Qualitative inquiry and research design: Choosing among five approaches (3rd ed.). *Thousand Oaks, CA: Sage. Family Online Safety Insitute.*

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255–284.

Gilkes, A. L. (2020). Teachers' knowledge and self-efficacy beliefs as factors affecting technology integration practices. *ProQuest Dissertations and Theses*.

Gonzales, A. L. (2018). Exploring technological, pedagogical, and content knowledge (TPACK) and self efficacy belief of senior high school biology teachers in Batangas City. *The Palawan Scientist*, *10*(1), 29-47.

Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis global edition, 7th Edition. In *Neuromarketing in India: Understanding the Indian Consumer*.

Henson, R. K. (2001). Teacher self-efficacy: Substantive implications and measurement dilemmas. In *Annual meeting of the educational research exchange*.

Hoover, A., & Krishnamurti, S. (2010). Survey of college students' mp3 listening: Habits, safety issues, attitudes, and education. *American Journal of Audiology*, *19*(1), 73-83. https://doi.org/10.1044/1059-0889(2010/08-0036).

International Society for Technology in Education. (2000). ISTE national educational technology standards (NETS). *Eugene, OR :International Society for Technology in Education.*

Jimoyiannis, A., & Komis, V. (2006). Exploring secondary education teachers' attitudes and beliefs towards ICT adoption in education. *Themes in Education, 7*(2), 181-204.

Johnson, P. (2009). The 21st century skills movement. *Educational Leadership, 67*(1), 11.

Kiray, S. A. (2016). Development of a TPACK self-efficacy scale for preservice science teachers. *International Journal of Research in Education and Science*, *2 (2)*, 527–541.

Kiray, S. A. (2016). Development of a TPACK self-efficacy scale for preservice science teachers. *International Journal of Research in Education and Science*, *2*(2), 527-541. https://doi.org/10.21890/ijres.64750.

Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of Education, 193*(3), 13-19. https://doi.org/10.1177/002205741319300303.

Lailiyah, M., & Cahyono, B. Y. (2017). Indonesian EFL teachers' self-efficacy towards technology integration (SETI) and their use of technology in EFL teaching.

Studies in English Language Teaching, *5*(2), 344-357. https://doi.org/10.22158/selt.v5n2p344.

Lee, M. H., & Tsai, C. C. (2010). Exploring teachers' perceived self-efficacy and technological pedagogical content knowledge with respect to educational use of the world wide web. *Instructional Science*, *38*(1), 1-21. https://doi.org/10.1007/s11251-008-9075-4.

Lee, W., Lee, M. J., & Bong, M. (2014). Testing interest and self-efficacy as predictors of academic self-regulation and achievement. *Contemporary Educational Psychology*, *39*(2), 86-99. https://doi.org/10.1016/j.cedpsych.2014.02.002.

Miles, M. B., & Huberman, A. M. (1984). *Qualitative data analysis*. London: Sage.

Miles B. Matthew, H. M. A., & S. J. (2014). *Qualitative data analysis: A Methods Sourcebook* (3rd. ed.). California: Thousand Oaks.

Milner, H. R., & Hoy, A. W. (2003). A case study of an African American teacher's self-efficacy, stereotype threat, and persistence. *Teaching and Teacher Education*, *19*(2), 263-276. https://doi.org/10.1016/S0742-051X(02)00099-9.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108(6), 1017-1054.*

Mishra, P., & Koehler, M. J. (2008). Introducing technological pedagogical content knowledge. *In Annual Meeting of the American Educational Research Association (Pp. 1-16).*

Nagauleng, A. M. (2018). *An investigation into non English educational background lecturers' competence in teaching English: A case study at UIN Alauddin of Makassar*.

National Council for Accreditation of Teacher Education. (1997). *Technology and the new professional teacher: Preparing for the 21st century classroom*. http://www.ncate.org/projects/tech/TECH.HTM.

Ottenbreit-Leftwich, A., Glazewski, K. D., Newby, T. J., & Ertmer, P. A. (2010). Teacher value beliefs associated with using technology: Addressing professional and student needs. *Computers & Education, 55*(3), *1321–1335*.

Perkmen, S., & Pamuk, S. (2011). Social cognitive predictors of pre-service teachers' technology integration performance. *Asia Pacific Education Review*, *12*(1), 45-58. https://doi.org/10.1007/s12564-010-9109-x.

Rossman, G. B., & Wilson, B. L. (1985). Numbers and words: Combining quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review*, *9*(5), 627-643. https://doi.org/10.1177/0193841X8500900505

Shulman, L. S. (1986). Those who understand: A conception of teacher knowledge. *American Educator*, *10*(1), 4–14. http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=EJ333816%5Cnpapers3://publication/uuid/E77F7FFC-98B3-40B5-90D2-50050B024672

Sojanah, J., Suwatno, K., & Machmud, A. (2021). Factors affecting teachers' technological pedagogical and content knowledge (A survey on economics teacher knowledge). *Cakrawala Pendidikan*, *40*(1), 1-16. https://doi.org/10.21831/cp.v40i1.31035

Stake R.E. (2010). *Qualitative research: Studying how things work.* New York:

Guilford Press.

Supratiknya, A. (2014). *Pengukuran psikologis*. *Penerbit Universitas Sanata Dharma, Yogyakarta*. ISBN 978-602-9187-75-5.

Tan, J. P. L., Yang, S., Koh, E., & Jonathan, C. (2016). Fostering 21st century literacies through a collaborative critical reading and learning analytics environment: Userperceived benefits and problematic. *ACM International Conference Proceeding Series*, *25-29-April-2016*. https://doi.org/10.1145/2883851.2883965.

Tashakkori, A., & Creswell, J. (2008). Mixed methodology across disciplines. *Journal of Mixed Methods Research, 2, 2-3*.

Tashakkori, A., & Teddlie, C. (1998). Mixed methodology: Combining qualitative and quantitative approaches. Thousand Oaks, CA: SAGE Publications.

Tschannen, M., & Woolfolk, H. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, *17*(7), 783-805.

U.S. Congress, O. of T. A. (1995). *Teachers and technology: Making the connection (OTA-EHR-616)*. *Washington DC: Government Printing Office*.

U.S. Department of Education. (2010). *National education technology plan*. http://www.ed.gov/technology/netp-2010/executive-summary.

U.S. Department of Education, N. C. for E., & Statistics. (2003). *Weaving a secure web around education: A guide to technology standards and security*. http://nces.ed.gov/pubs2003/2003381.pdf.

Wang, L., Ertmer, P.A., & Newby, T. J. (2004). Increasing preservice teachers' self-efficacy beliefs for technology integration. *Journal of Research on Technology in Education, 36*(3), 231-250.

Yulianti, D., Utami, N. R., Ridloand, S., & Isdaryanti, B. (2021). Measurement of TPACK self-efficacy for pre-service science teachers. *Journal of Physics: Conference Series*, *1918*(5). https://doi.org/10.1088/1742-6596/1918/5/052084

Zhao, Y., & Frank, K. A. (2003). Factors affecting technology uses in schools: An ecological perspective. *American Educational Research Journal*, *40*(4), 807-840. https://doi.org/10.3102/00028312040004807.

Zimmermann, F., Melle, I., & Huwer, J. (2021). Developing prospective chemistry teachers' TPACK-A comparison between students of two different universities and expertise levels regarding their TPACK self-efficacy, attitude, and lesson planning competence. *Journal of Chemical Education*, *98*(6), 1863–1874. https://doi.org/10.1021/acs.jchemed.0c01296.