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Factors Affecting Teacher Readiness for Online Learning (TROL) in Early Childhood Education: TISE and TPACK

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ABSTRACT: This study aims to find empirical information about the effect of Technological Pedagogical Content Knowledge (TPACK), and Technology Integration Self Efficacy (TISE) on Teacher Readiness for Online Learning (TROL). This study uses a quantitative survey method with path analysis techniques. This study measures the readiness of kindergarten teachers in distance learning in Tanah Datar Regency, West Sumatra Province, Indonesia with a sampling technique using simple random sampling involving 105 teachers. Empirical findings reveal that; 1) there is a direct positive effect of Technology Integration Self Efficacy on Teacher Readiness for Online Learning; 2) there is a direct positive effect of TPACK on Teacher Readiness for Online Learning; 3) there is a direct positive effect of Technology Integration Self Efficacy on TPACK. If want to improve teacher readiness for online learning, Technological Pedagogical Content Knowledge (TPACK) must be improved by paying attention to Technology Integration Self Efficacy (TISE).

Keywords: TROL, TPACK, TISE, Early Childhood Education

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1 INTRODUCTION

The COVID-19 pandemic in various countries does not end and has an impact on all aspects of human life. Until now, the outbreak of coronavirus disease is still infecting Indonesia. One aspect that has really felt the impact of the pandemic is education (Karatas, 2020). From early childhood education (ECE) units to higher education, all students have been negatively affected by the COVID-19 pandemic (Crawford et al., 2020). Schools are diverted online so that teachers have to do teaching tasks from home, so the learning process cannot run normally as usual, and teachers have to change methods and adapt existing learning designs (Wiresti, 2021). Starting from these problems, where the education unit carries out diffusion and innovation in the learning process. In line with that, (Bozkurt et al., 2020) stated that the disasters that hit the world today have had a major impact on the world of education, the learning process must be carried out remotely or known as online learning (OL). (Putro et al., 2020) added that readiness in using technology will determine the success of OL, both in Indonesia and in other countries.

In particular, the negative impact of the pandemic was felt by teachers (Donitsa-Schmidt & Ramot, 2020). There are still many educational facilities in certain countries that have not carried out the technological transformation process needed to provide students with OL opportunities (Adnan, 2020). Furthermore, teachers also experience difficulties in planning OL and adapting learning materials for the online environment (Moorhouse, 2020). The pandemic has shown that the structure of the education system requires technological and pedagogical improvements.

Online learning is a learning innovation in the 21st century because it utilizes communication, multimedia, and knowledge transfer without being limited by space and time. Teachers in OL play an important role in the success or failure of OL systems (Mallillin et al., 2020). The main problem in learning in the 4.0 revolution era is the integration of information and communication technology into learning activities (Reflianto & Syamsuar, 2018). This is the biggest challenge for teachers and students who must be responded to quickly and appropriately by adapting to increasingly rapid technological developments.

In addition, teachers are expected to be able to adapt to the changes caused by COVID-19. Teachers must have computer literacy and digital learning competencies to support online learning (Kim, 2020). In this case, teachers must have self-efficacy, have knowledge in integrating technology into content and teaching (Dolighan & Owen, 2021; Semiz & Ince, 2012). In the current pandemic conditions, ideally, teachers should be more creative in integrating technology into learning and teaching materials. This is one of the supports in the readiness of teachers in OL so that teachers can carry out their duties optimally and professionally (Oketch & Otchieng, 2013). Teacher readiness for OL is a form of teacher professionalism and pedagogy (Siagian et al., 2021). So, in addition to being proficient in technology, teachers' readiness to conduct online learning is also needed.

Seeing these conditions, it is necessary to have a framework that becomes a picture for teachers in integrating knowledge of technology, pedagogy, and content. Especially now, proficiency in technology for teachers is needed in combining pedagogical skills and content knowledge, known as TPACK (Dong et al., 2015). TPACK or what is usually also known by the abbreviation TPACK is a framework with an integrated relationship between technological knowledge, pedagogy, and content (Suyamto et al., 2020). In a concept like this, the TPACK framework can measure teacher mastery of integrating technology into teaching and learning content, especially in online learning. Therefore, the teacher's pedagogical competence and content knowledge are integrated with mastery of technology (Tiara & Pratiwi, 2020).

TPACK and TISE are important components for ECE teachers because online learning will be easier by integrating ICT into learning strategies (Yildiz Durak, 2019). Therefore, research on testing the level of knowledge, beliefs, and expectations of PAUD teachers in OL readiness needs to be done. To find out how participation and involvement in OL environments are, it is important to investigate the key factors influencing ECE teachers' OL readiness during the COVID-19 pandemic. This study investigates content pedagogical technology knowledge, and self-confidence in integrating technology in predicting teacher readiness for OL.

2 THEORITICAL STUDY

2.1 *Teacher Readiness for Online Learning*

Readiness for online learning (OL) is one aspect of learning that has become very popular in educational institutions, significantly explained by being ready to learn online. The concept of readiness is a variable that is often mentioned and measured in distance education research, e-learning and OL (Kaymak & Horzum, 2013). OL can be defined as knowledge and skills acquired through synchronous and asynchronous learning applications that are supported and managed using Internet technology (Adedoyin & Soykan, 2020).

According to Carler (2003), OL is access to learning experiences through several technologies. Meanwhile, Anderson (2008), defines OL is part of education carried out at a distance provides access to experiences are flexible in time and space. What is meant by online learning during a pandemic is that teachers and students are not separated, but they teach and learn from home using technology? This technology can be used such as smart phones, laptops, iPads, and tablets. Many platforms are offered for online learning that can be integrated with technology, such as Whatsapp, Google Classroom, Teacher Room, Quipper, Zoom meeting, etc.

Butnaru et al., (2021) stated that in order to meet the needs of their future students, teachers could be ready to integrate technology into their teaching as well as be to teach online. Otherwise, it is said that teachers who do not have OL readiness will not be able to adequately support their students. For this reason, it is hoped that prospective teachers

will graduate with online learning readiness in the teacher-training process. Yurdugül (2017) states that individuals or institutions must have the necessary initial knowledge/skills and affective characteristics (such as attitudes, motivation) to experience e-learning in the most effective way.

Teachers as leaders in the teaching and learning process are required to master the technology so that it can be applied during the learning process (Yudha et al., 2021). This is also stated in the regulation of the minister of national education no. 16 of 2007 which states that a teacher must have competence in the field of information and communication technology. Information and communication technology is expected to increase the effectiveness and efficiency of the teaching and learning process in schools (Sintawati & Indriani, 2019).

The results of research conducted by Lee and Lee (2014) state that self-efficacy in the use of technology in a teacher greatly affects the teacher's ability to plan online learning processes in the classroom. If a teacher's self-efficacy is good, then he is great in planning learning, and vice versa. In this study, they revealed that a specific factor that influences teachers in planning learning is the teacher's self-efficacy in integrating technology. Hatlevik and Hatlevik (2018) say that a teacher's high Information and Communication Technology (ICT) ability will affect his level of confidence in integrating technology. In other words, a teacher who can use computers well and can plan lessons means he has good self-efficacy in using technology.

2.2 *Technological Pedagogical Content Knowledge (TPACK)*

Currently, the strategy that can be used by teachers in the learning process is to provide support for the integration of insights from content, pedagogy, and other things that can support the learning process. Research on the use of technology in learning activities have been widely developed and needed by teachers, one of which is Technological Pedagogical and Content Knowledge (TPACK) (Elas et al., 2019; Keser et al., 2015; Mulyadi et al., 2020). TPACK is a concept that is described between three parts of insight that are understood by teachers, namely knowledge of content, pedagogy, and technology (Suryawati et al., 2014).

TPACK is characterized as knowledge resulting from teachers' concurrent and interdependent understanding of content, general pedagogy, technology, and learning context (Harris & Hofer, 2011). TPACK is a conceptual framework in which technology, pedagogy, and knowledge interact with each other (Koehler et al., 2013). The TPACK framework is a work section describes the components take part in learning activities in a complete and related way between every part of both educators, students, classes, and the infrastructure supports the technique (Mishra, 2019). Thus, insight into TPACK is very important to be mastered by teachers because technology will always develop, and children will be more and more related to technology. TPACK knowledge will provide creative ideas in presenting interesting and fun learning for students (Sojanah et al., 2021).

Pedagogical knowledge and technology content (TPACK) provides a dynamic framework to describe the teacher knowledge needed to design, implement, and evaluate curriculum and teaching with technology. TPACK includes knowing when, where, and how to use special knowledge and strategies by teachers in implementing learning with appropriate information and communication technology. Developing a stronger and more mature TPACK really supports teachers in teaching with current and emerging technology, especially during a pandemic like today (Niess, 2011).

The results of the research by (Brinkley-Etzkorn, 2018) found that teacher TPACK is relevant for online teaching and learning because integrating technology, pedagogy, and content is the key to training teachers to be able to teach in OL. The same thing was also conveyed by (Habibi et al., 2019) explaining that TPACK greatly influences teacher readiness in facing OL, then it is supported by research conducted by (Dong et al., 2015) that TPACK can help teachers face pressure to apply ICT in learning, with the TPACK ability so that teachers have pedagogic knowledge both in face-to-face learning and in OL (Santika et al., 2021).

In addition to technological capabilities, there are many other factors that affect the readiness of teachers in online learning. Previous research stated that OL readiness by teachers is influenced by confidence in using computers/Internet, motivation to learn (Setiaji & Dinata, 2020), self-efficacy (Alqurashi, 2016), online communication and independent learning (Murtaza et al., 2021), expected outcomes in technology use (Chou & Ph, 2012), and TPACK (Sum & Taran, 2020). Among these several factors, self-efficacy is one of the factors that greatly influence the readiness of teachers in OL.

2.3 *Technology Integration Self Efficacy (TISE)*

The 21st century is a century where all fields use technology to facilitate work, including education (Amir, 2016). The use of technology in the field of education can support the student's learning process to think critically, can make it easier for students to solve problems, collaborate and communicate. The use of technology in the field of education can be in the form of means or tools used in conveying information (Birisci & Kul, 2019).

One of the internal factors that can influence a teacher in making decisions to integrate technology is the Technology Integration Self-Efficacy (TISE) (Cengiz, 2015). The intrapersonal factors that influence the TPACK of a teacher are expected results, TISE and interest in using a technology. This is supported by Keser et al., (2015) who added that the important thing for a teacher to be able to integrate technology into the teaching and learning process is the teacher's self-efficacy in integrating technology or what is called TISE.

The context of technology-based self-efficacy learning in integrating technology in teaching is called TISE (Ariani, 2015). TISE is also considered as a factor influencing teacher's decision to use technology in the classroom. The existence of self-efficacy towards TISE in teachers affects the way teachers adapt to existing technology in

education (Anggraeni et al., 2018). Semiz and Ince (2012) also said that increasing teacher self-efficacy in integrating technology have a positive effect on the teaching and learning process and student learning. Therefore, teachers must also have self-efficacy in integrating technology to develop their ability to use ICT in the teaching and learning process.

Self-efficacy for a teacher in integrating technology during learning is very important so that the teacher can use his knowledge of problems in teaching, learning, and teaching as well as the technology used to facilitate learning experiences to increase student understanding, creativity, and innovation both in learning and in face to face. Teachers must design, implement, and develop experiences and in authentic learning to combine contemporary tools and resources so that learning outcomes are maximized and in accordance with content, as well as to improve skills, knowledge and attitudes that are in accordance with norms (Tsai & Chai, 2012).

3 METHOD

This research uses survey method with path analysis technique with the aim of knowing, proving, and predicting based on empirical data. The evidence is related to theories, concepts, factors, and indicators of the relationship of each variable, whether it is proving a direct or indirect relationship to the influence variable. This research was carried out in ECE, Tanah Datar Regency, West Sumatera.

3.1 Participant

The research sample was taken from several kindergartens in nine sub-districts, Tanah Datar Regency, which were taken as research targets/subjects. Furthermore, for institutional or sample data collection, teacher respondents were used because this study was related to teacher readiness for online learning, TPACK and TISE. Determination of the number of research samples obtained from each sub-district the author uses simple random sampling to find representatives of research respondents, so that the total research participants are 105 teachers, Table 1 shows the distribution of research respondents. This study involved three variables that became the focus of research, the independent variable (TISE (X1) and TPACK (X2)), the dependent variable teacher readiness for online learning (Y)).

Table 1. Number of Respondents

No	District's	Jumlah
1	Kec. Lima Kaum	8
2	Kec. X Koto	10
3	Kec. Lintau Buo Utara	6
4	Kec. Rambatan	7
5	Kec. Batipuh	5
6	Kec. Sungai Tarab	12
7	Kec. Tanjung Emas	5
8	Kec. Pariangan	8
9	Kec. Lintau Buo	10
10	Kec. Sungayang	9

11	Kec. Salimpaung	10
12	Kec. Padang Ganting	12
13	Kec. Tanjung Baru	6
14	Kec. Batipuh Selatan	6
Total		105

3.2 Data Collection and Analysis

The data collected is primary data and supporting data. That is data taken directly during the study of the sample. Data were collected in the form of scores obtained from each variable, namely the TPACK, TISE, and TROL variables. All data were collected by questionnaire. Supporting data were taken before conducting the research, namely the number of teachers at each institution in PAUD. Data was collected by self-report, where the sample filled out the questionnaire itself. Each variable uses a standard instrument. The instrument used is an instrument that has been well validated and has a good reliability value such as the TPACK Survey Questionnaire by Pamuk et al., (2015) with a reliability of 0.786, Technology Integration Self-Efficacy Scale (TISES) by Wang et al., (2014) with a reliability of 0.818, and the TROL Scale according to Hung (2016) with a reliability of 0.830. First, the process of adaptation and modification is carried out. The process of modification and adaptation carried out is cross-cultural adaptation. First, the process of translating or translating each instrument is carried out. These are then reviewed and adapted to the cultural context and scaled for use in other settings.

The distribution of the questionnaire was designed in the form of a Likert-type scale. This Likert scale is a modified form of the Likert scale that has developed or changed. On this scale, the statement sent has five alternative responses. The set of scores to adapt to the positive statement scale is 1: strongly disagree, 2: disagree, 3: Neutral, 4: agree, 5: strongly agree. Inferential analysis technique is used to test the hypothesis. In the path analysis technique, using the AMOS version 22 programs where the data must meet several statistical test requirements, namely: normality test, multicollinearity test, and path coefficient test.

3.3 Research Design

The hypotheses that are temporary answers based on data that are not in accordance with the facts obtained through data collection in this study are: (1) H1. There is a direct effect of TISE to Teacher Readiness for OL; (2) H2. There is a direct effect of TPACK to Teacher Readiness for OL; (3) H3. There is a direct effect of TISE to TPACK.

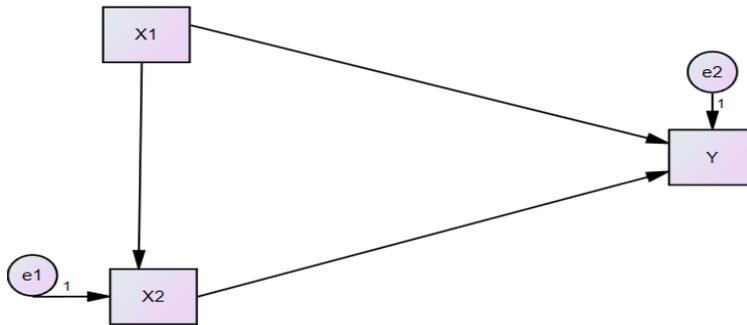


Figure 1. Path Diagram (Source: Output AMOS Version 22)

4 RESULT AND DISCUSSION

4.1 Result

4.1.1 Analysis Requirements testing

This study analyzes the data obtained from the field using path analysis techniques. The test required in using the path analysis technique consists of descriptive and inferential statistical tests. Inferential statistical test on path analysis requires that the sample used in the study comes from a normally distributed population. Tests are carried out through normality and multicollinearity tests of data as follows.

4.1.1.1 Normality test

Furthermore, multivariate normality testing was carried out. In AMOS version 22 displays the results of the multivariate normality test.

Table 2. Normality Test with AMOS version 22

Assessment of normality (Group number 1)						
Variable	min	max	skew	c.r.	kurtosis	c.r.
X1	50,000	81,000	-,275	-1,150	-,344	-,720
X2	60,000	87,000	,297	1,243	-,142	-,297
Y	52,000	85,000	-,117	-,488	-,200	-,418
Multivariate					,883	,826

Based on the AMOS output for the normality test above (Table 4.1), it is known that the value of c.r. (critical ratio) on the multivariate row is 0.826. Widarjono (2015) stated the value of c.r. which is between ± 1.96 means the data is normally distributed. is within the critical value range of ± 1.96 ratio. This means that the assumptions are met.

4.1.1.2 Multicollinearity Assumption Test

Multicollinearity test is a test to test whether there is a strong correlation between the variables TPACK, TISE, and TROL. The Regression Model looks at whether there is an intercorrelation/collinearity between independent variables or a linear (strong) relationship between independent variables/predictor variables. Where the correlation value (Estimate column) is below 0.9. (Ghozali, 2011).

Table 3 Multicollinearity Assumption Test with AMOS version 22 (Correlations: (Group number 1 - Default model))

		Estimate
X2	<--- X1	,285

It is known correlation values (Estimated column) are below 0.9, indicating the absence of multicollinearity symptoms.

4.1.1.3 Hypothesis Testing

Hypothesis testing is done by analyzing the significance of the regression weights. The analysis was conducted to explain the magnitude of the value of the direct effect, the indirect effect, and the overall effect from one variable to another. After conducting, the required tests for analysis of the normality test are that then the researcher did the hypothesis testing by using path analysis. For the data processing of path analysis, the researcher used AMOS version 23, which is the summary of test results presented as follows:

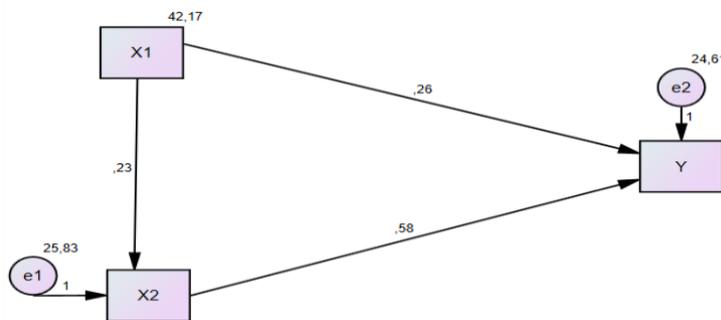


Figure 2. Interpretation of Coefficient Path Diagrams Model (Source: Output AMOS Version 22)

The following is a summary table of the path analysis obtained based on the results (see table 4)

Table 4. Regression Weight Result

Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
X2	<--- X1	,232	,077	3,027	,002	par_3
Y	<--- X1	,258	,078	3,306	***	par_1
Y	<--- X2	,582	,096	6,081	***	par_2

Source: Output AMOS Version 22

4.1.1.4 Direct positive effect of Technological Pedagogical Content Knowledge (TPACK) (X1) to Teacher Readiness for Online Learning (TROL) (Y)

After testing, it turned out that the path coefficient value of the TPACK variable on teacher readiness for online learning was positive, which were 0.26. The effect of TPACK on teacher readiness for OL is statistically very significant. It is known from the p-value of 0.000 which is smaller than 0.05, it can be stated that H0 is rejected, which means that there is a direct positive effect of the TPACK variable on the teacher readiness for online learning variable is very significant OL.

4.1.1.5 Direct positive effect of Technology Integration Self Efficacy (X2) to Teacher Readiness for Online Learning (TROL) (Y)

The test results show that the path coefficient value of the TISE variable on teacher readiness for OL is positive, which are 0.58. The effect of TISE on teacher readiness for OL is statistically very significant. It is known from the p-value of 0.000, which is smaller than 0.05, it can be stated that H₀ is rejected, which means that there is a direct positive effect of the TISE variable on the teacher readiness for OL variable is very significant OL.

4.1.1.6 Direct positive effect of Technological Pedagogical Content Knowledge (TPACK) (X1) to Technology Integration Self Efficacy (X2)

The test results show that the path coefficient value of the TPACK variable on TISE is positive, which are 0.58. The effect of TISE on teacher readiness for OL is statistically very significant. It is known from the p-value of 0.002, which is smaller than 0.05, it can be stated that H₀ is rejected, which means that there is a direct positive effect of the TPACK variable on TISE variable is significant OL.

4.2 Discussion

4.2.1 H1: The Influence of Technological Pedagogical Content Knowledge (TPACK) on Teacher readiness for online learning

The conclusion obtained from the first hypothesis is that Technological Pedagogical Content Knowledge (TPACK) has a significant direct effect on teacher readiness for online learning. The effect is indicated by the path coefficient of 0.26. This means that increasing TPACK will update teacher readiness for online learning. TPACK is a character of knowledge that includes an interrelated and concurrent understanding of the material, general pedagogy, technology, and learning context. TPACK has the aim of developing the basis when a teacher learns and understanding learning materials and technology can increase learning opportunities and provide experiences for students to know the right pedagogy to improve the content of the learning (Ariani, 2015).

Abbitt (2011), in his research explains that a teacher who understands the correct pedagogy and concepts by integrating technology in the learning process is a teacher who is prepared to face learning, both direct and online learning. With the TPACK, a teacher cannot only be directly involved and motivate students to develop creative learning, of course also with learning that can be understood by students. The TPACK model explains that content related to technology and pedagogical skills can produce effective and innovative learning, especially during a pandemic like today. In a study conducted by Juanda et al., (2021) teacher readiness in dealing with online learning has a significant relationship to TPACK as seen from the teacher's technological ability, that flexibility of place and time, the availability of learning resources, as well as increasing the independence of teachers and students in using technology to become an advantage in online learning during the Covid-19 outbreak. So, from this, the implementation of online learning can run well.

Trionanda (2021) added that most teachers already had knowledge of how to apply computers and relevant software (TK) well, also can manage student learning (PK) well and have knowledge of mathematics subject matter. (CK) It is good and has the knowledge to integrate technology in learning approaches (TPACK) which are good too. Then the average teacher has knowledge about the use of technology that can facilitate a good pedagogical knowledge approach to support good social construction (TPK), has good knowledge of how technology can be applied to make representations in learning certain material concepts (TCK), has good knowledge of how to represent and formulate a subject accepted by others (PCK). Based on the discussion of the student questionnaires, it was obtained that most of the students were quite ready to take part in learning using technology.

Research conducted by Mustika and Sapriya (2019) explains that there are several things that can affect the readiness of teachers in online learning, namely, the ability of TPACK and the existing infrastructure in the school. From the results of the study, it was explained that the teacher who was the object of the study had good TPACK abilities, but because the infrastructure of the school was not adequate, the readiness of teachers in online learning was not maximized. The teacher's TPACK ability is proven by the teacher being to provide learning materials to children through PPT, videos and the selection of learning material is also interesting for children. The results of the study have proven, and it can be said that TPACK has a relationship with teacher readiness in better OL during the Covid-19 pandemic. Overall, it can be said that the TPACK that can be reached by teachers is good as well as the readiness of teachers in OL.

4.2.2 H2: *The Influence of Technology Integration Self Efficacy (TISE) on Teacher readiness for online learning*

The conclusion obtained from the second hypothesis is that Technology Integration Self Efficacy (TISE) has a significant direct effect on teacher readiness for online learning. The effect is indicated by the path coefficient of 0.58. This means that increasing TISE will upgrade teacher readiness for online learning. Current research conducted by Warden et al., (2020) said that technology readiness had a significant relationship to self-efficacy in integrating technology. If they are confident in integrating technology, they will also have high confidence in integrating technology. Another study conducted by Hung et al., (2010) said that teacher self-efficacy in integrating technology in learning will affect teacher readiness in implementing online learning, affect learning motivation, and influence teachers in controlling students when implementing learning in the classroom. Gil-flores and Rodríguez-santero (2017) also said the same thing that self-efficacy in integrating technology had an influence on teacher readiness for online learning. He also said that many factors could affect teachers' confidence in integrating technology during learning, one of which was the infrastructure available at the school.

Bandura's theory of self-confidence or what can be called self-efficacy says that if a teacher has high knowledge, it will affect a teacher's self-confidence in using technology in the learning process in the classroom. Abbitt (2011) explains that TISE leads to self-

confidence to do a job that uses technology in the process, be it the teaching and learning process in the classroom or others (Giles & Kent, 2016). Several factors that can influence a teacher in teaching are self-concept, belief in using technology, attitudes, self-concept, motivation, and the need for the importance of integrating and developing technology, especially in this 4.0 era (Paraskeva et al., 2008). If a teacher has high confidence in integrating technology, then he will be maximal and successful in integrating technology in the learning process in the classroom (Wahyuni, 2019). In general, it can be said that an increase in TISE will increase teacher readiness for OL. The results of the research and the explanation above show TISE has a significant direct influence on teacher readiness for OL.

4.2.3 H3: *The Influence of Technological Pedagogical Content Knowledge (TPACK) on Technology Integration Self Efficacy (TISE)*

The conclusion obtained from the third hypothesis is that TISE has a significant direct effect on TPACK. This effect is indicated by the path coefficient of 0.23. This means that increasing TISE will increase TPACK. Pamuk et al., (2015) say that the most powerful way to support the application of technology during learning is to use a complex framework from content knowledge, pedagogical abilities, technological capabilities, to elements that can support other learning. say that the most powerful way to support the application of technology during learning is to use a complex framework from content knowledge, pedagogical abilities, technological capabilities, to elements that can support another learning. This framework is often referred to as TPACK (Pedagogical Content Knowledge Technology) (Subhan, 2020). TPACK itself is defined as knowledge of technological pedagogical content, which is a framework and is connected to three basic components of knowledge, namely content, technology and pedagogy (Semiz & Ince, 2012).

Research conducted by Wahyuni (2019) on Mathematics teachers at *Madrasah Ibtidaiyah* shows that TISE has a very significant relationship with TPACK and teachers who have a moderate TISE level, as well as their TPACK abilities. This confirms that TISE and TPACK is mutually dependent. A very important aspect that will affect the TPACK ability of a teacher is himself in integrating technology in the learning process in the classroom or online. In addition, if someone increases their TPACK competence, it can also upgrade their confidence in teachers to integrate technology when OL or engaging (Reski & Sari, 2020). A teacher who has high self-confidence in integrating technology is more likely to succeed in integrating technology when teaching (Ruggiero & Mong, 2015).

Many factors can affect a person's TPACK, one of which is individual factors. One of the internal factors that can influence teachers or prospective teachers in making decisions to integrate technology is TISE (Keser et al., 2015). Several intrapersonal factors such as TISE, outcome expectations, and interest in using technology can affect the TPACK of teachers and prospective teachers (Qudsiya et al., 2018). Furthermore, Senthilkumar et al., (2014) in their research stated that TISE and TPACK were very important provisions

for candidates because learning can be easier by integrating ICT into learning strategies. In general, it can be said that an increase in TISE will increase TPACK. The results of the research and the explanation above show that TISE has a significant direct influence on TPACK.

5 CONCLUSION

Based on the results of research, data analysis, and discussion, it can be concluded that there is a direct effect of TPACK on teacher readiness in OL. It was found that TISE had a direct effect on teacher readiness for OL. There is also a direct effect of TPACK on TISE. Therefore, teacher readiness for OL can be done by increasing TISE and TPACK. Increasing teacher readiness in OL through TPACK can be achieved through several things, including increasing a teacher's confidence in integrating knowledge with technology to support the learning process both when learning online or not. Increase training in the use of technology for teachers, increase opportunities for using technology in learning, and complement existing infrastructure in schools.

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