Nusantara: Jurnal Pendidikan Indonesia
P-ISSN: 2774-3829|E-ISSN: 2774-7689
Vol. 5, No. 3, July 2025
https://journal.rumahindonesia.org/index.php/njpi/index

The Influence of TPACK Mastery and Emotional Intelligence on Teachers' Technology Awareness

Iffah Budiningsih[1], Moh. Fahri Yasin[1], Khasanah[1], Khadijah[2]
[1]Universitas Islam As-Syafi'iyah, Jakarta, Indonesia
[2]IAIN Ar-Raniry, Banda Aceh, Indonesia

ABSTRACT
Purpose – Technology plays an essential role in the learning process; therefore, technological awareness is a necessary competence for teachers. This study aims to examine the influence of mastery of Technological Pedagogical and Content Knowledge (TPACK) and emotional intelligence on teachers' technological awareness.
Method – This study employed a survey method involving teachers from the East Jakarta area who graduated from the Master of Educational Technology program at As-Syafi'iyah Islamic University Jakarta in 2024 (within UIA's East Jakarta working area). A total of 84 participants were included in the sample. Data were collected using a questionnaire and analyzed through descriptive statistics, correlation analysis, and simple regression.
Findings – The results show that teachers' levels of technological awareness, TPACK mastery, and emotional intelligence are within the moderate range, with mean scores between 3.60 and 3.90. There is a positive and moderately strong correlation (R = 0.489) between TPACK mastery and emotional intelligence with technological awareness. Together, TPACK and emotional intelligence explain 23.90% of the variance in technological awareness, indicating that these factors contribute meaningfully to teachers' awareness of technology use. Among the two variables, emotional intelligence demonstrates a stronger predictive influence on technological awareness compared to TPACK mastery. The regression model $Y = 1.587 + 0.215X_1 + 0.389X_2$ is statistically significant and can be used to predict the level of technological awareness among teachers.
Research Implications – Teachers are encouraged to enhance their technological awareness by integrating TPACK more actively in the learning process, supported by emotional resilience such as perseverance and patience when guiding students.

OPEN ACCESS

ARTICLE HISTORY
Received: 04-05-2025
Revised: 02-07-2025
Accepted: 05-07-2025

KEYWORDS
technology awareness, content knowledge, emotional intelligence

Corresponding Author:

Iffah Budiningsih
Universitas Islam As-Syafi'Iyah, Jakarta, Indonesia
Email: iffah_budiningsih@uia.ac.id

Introduction

Advances in information and communication technology (ICT) in the 21st-century era gave birth to the Industrial Revolution 4.0 and 5.0, which encouraged and forced educational institutions to integrate the Internet into learning. The integration of ICT can improve the mobility, accessibility, and interactivity of unfulfilled learning processes in traditional (face-to-face) learning. Annobi (2015) argues that from education to business, currently, everything uses digital technology. According to UNESCAP (United Nations-Economic and Social Commission for Asia and the Pacific), in Indriatiningtias (2020), technology has 4 (four) basic components, namely a) techno-ware, b) human-ware, c) organ-ware, and d) info-ware. Furthermore, Lumbangaol et.al (2021) apply these 4 (four) components to the components of learning support in the digital era, which include: a) techno-ware: hardware, internet connections, software; b) human-ware: human resources (teachers, employees, etc.); c) info-ware: learning guides, technology usage guides, etc.; d) organ-ware: school regulations/policies, budget, etc.

Kusuma et al (2021) explained that in general, teachers in Indonesia have a low understanding of the use of ICT in the learning process, this is due to, among others: teachers do not have sufficient insight into ICT applications that are in accordance with the learning needs at school, this affects the understanding of the use of ICT by teachers in Indonesia which is still low, which has implications for teachers' mastery of TPACK. Furthermore, according to Wyk (2020), if a teacher does not have a theoretical structure about technology, such as an understanding of the nature of technology, which includes three things: (a) a universal definition of technology; (b) an organising framework for technology; and (c) a methodology for measuring technological progress, then teachers' technological awareness needs to be questioned. Nagasubramani (2018) argues that as the use of digital technology in learning increases, teachers must understand the role of technology; thus, technology awareness becomes a requirement that teachers must understand.

Goleman (2016) defines self-awareness as an understanding of one's own feelings, which are used in decision-making. A teacher who has high technological awareness, then the teacher will know what is his responsibility in understanding, applying, maintaining technology in the student learning process. Furthermore, Human Resources Management-United Nation. (2010) describes indicators of technological awareness, including: a) keeping up with technological developments; b) understanding the application of technology and the limitations of technology in the workplace; c) actively trying to apply technology to appropriate tasks; d) showing a willingness to learn new technology. From the description above, what is meant by teachers' technological awareness in this study is an understanding of themselves, which is used in decision making, which includes: a) always following technological developments; b)

understanding the application of technology & technological limitations; c) applying technology in appropriate tasks; d) willingness to learn new technology.

Koehler & Mishra (2019), and Abitt (2011) argue that another important thing that teachers must know in the digital era is mastery of Technological Pedagogical and Content Knowledge (TPACK), which is a learning model that integrates technological, pedagogical, content, and knowledge domains, which is useful for overcoming various problems of implementing digital technology in the learning process. Dewi et al (2021) argue that "Technological Pedagogical and Content Knowledge" (TPACK) is very useful for developing teachers' abilities in the digital era (industrial era 4.0 & 5.0) which uses a lot of technology integration in learning. Sojanah et al (2021) argue that low teaching experience has a positive effect on the low TPACK of teachers; the lower the teaching experience, the lower the mastery of TPACK.

According to Kurniasari & Mardikaningsih (2022), the TPACK framework includes 7 (seven) knowledge domains, namely: a) pedagogical-knowledge, b) content-knowledge, c) technology-knowledge, d) pedagogical-content-knowledge, e) technological-content-knowledge, f) technological-pedagogical-knowledge, g) technological-pedagogical-content-knowledge. From the above, what is meant by teachers' TPACK mastery is the mastery of teachers in integrating: a) pedagogical & knowledge, b) content & knowledge, c) technology & knowledge, d) pedagogical, content & knowledge, e) technological, content & knowledge, f) technological, pedagogical & knowledge, g) technological, pedagogical, content, & knowledge.

Goleman (2016) argues that emotional intelligence includes five domains, namely: a) understanding one's own emotions; b) managing one's emotions; c) motivating oneself; d) understanding the emotions of others; and e) managing good relationships. According to Konrad & Gabrijelčič (2014) that the learning process requires intense interpersonal interaction, and mutual adaptation between teachers & students, therefore teachers must have high emotional intelligence. Furthermore, Konrad & Gabrijelči explained that emotional intelligence includes three adaptive abilities, namely; a) the ability to evaluate and express their own and others' emotions (verbal and non-verbal); b) the ability to control emotions in themselves and others, and c) the ability to use emotions to solve problems in decision making, for example in flexible planning, creative thinking, attention and non-directive motivation.

Valente et al (2020) showed that teachers who tend to have high levels of emotional intelligence capacity will be able to understand, express, and manage emotions in the learning process and effectively manage the classroom. Furthermore, Mortiboys in Pishghadam & Sahebjam (2012) show that teachers who have high emotional intelligence will provide implications: a) being able to recognise students' emotions; b) being able to develop students' positive attitudes; and c) helping learners to "feel competent". Sudibjo

& Sutarji (2020) explain that emotional intelligence includes the dimensions of: a) unemotional; b) personal & social skills; c) the ability to understand themselves and others; and d) adapt in co-operation/relationship with others. In the digital era, where technology is integrated with learning, teachers are required to have high emotional intelligence, which requires the support of teacher competencies, including: a) the ability to innovate, utilising various digital tools, b) the ability to reorganise digital assessment methods; c) the ability to provide learning to balance 'old' knowledge with digital mechanisms; d) communication skills to synergise digital learning goals with parents (Rahman, 2020).

From Rahman's explanation, it can be concluded that teachers will have sufficient technological awareness that requires technological mastery competencies that require perseverance and stable emotions (sufficient EQ) in learning technology. Furthermore, what is meant by teacher emotional intelligence in this study is the teacher's soft-skill ability which is a soft skill related to the characteristic factors: a) always alert & not blaming yourself; b) not volatile in managing emotions & mastering self-feelings; c) positive thinking, self-control, enthusiasm; d) sensitivity, sociability, & understanding of others; and e) expressing yourself, being open, and restraining emotions.

The benefits of this research are expected to find a mathematical model of strengthening teachers' technological awareness through mastery of TPACK, and emotional Intelligence. Furthermore, some of the research questions (QR) include: a) is there a positive and significant relationship between TPACK mastery and emotional intelligence, simultaneously with teachers' technological awareness? b) is there a significant contribution of TPACK mastery & emotional intelligence together to teachers' technological awareness? C) is the mathematical model of TPACK mastery and emotional intelligence significant as predictors of teachers' technological awareness achievement?

Methods

This study used a survey approach with respondents of Master of Educational Technology (S2-MTP) alumni at As-Syafi'iyah Islamic University (UIA) Jakarta TA 2024, with a target population of 127 people. The sample was taken by simple randomisation of alumni living around East Jakarta which is the working area of UIA using the Slovin formula with a margin of error of 0.1; so that the number of research samples was at least 56 alumni of S2-MTP UIA Jakarta. In this study using a research sample of 84 people, thus fulfilling the minimum requirements.

The collection of data was carried out using 3 questionnaire instruments with alternative answers using 5 (five) Likert scales. The research instrument was prepared by the author using literature review analyses, and before being used for research, the instrument was tested with a sample of 30 people (outside the research respondents) to measure the level of validity and reliability. Analysis of research data using descriptive

mean analysis, Pearson correlation, and multiple regression with the help of the SPSS version 27 programme. Before conducting multiple regression analyses, the requirements for analysis were tested, including normality, heteroscedasticity, autocorrelation, and multicollinearity tests. Research variables and indicators are presented in Table 1, and the conceptual framework (constellation of research problems) is presented in Figure 1.

Table 1. Research Variables and Indicators

No	Variable	Indicator
1	Technology Awareness	a. Keep up with technology b. Understand the application of technology and the limitations of technology in the workplace. c. Actively seek to apply technology to appropriate tasks. d. Demonstrate a willingness to learn new technologies.
2	Mastery of Technological Pedagogical Content Knowledge (TPACK)	a. Pedagogical knowledge (knowledge of lesson planning/practice: teaching methods, classroom management, instructional planning, assessment of student learning). b. Content knowledge (Knowledge of the subject matter to be taught). c. Technology knowledge (information processing, communication, and problem-solving, focusing on technology applications). d. Pedagogic content knowledge (linking lesson planning/practice with learning content/material). e. Knowledge of technological content (linking between subject matter and technology). f. Pedagogical knowledge of technology (linking learning planning/practice with technology). g. Knowledge of pedagogical content technology (linking learning planning/practice with content &; technology).
3	Emotional Intelligence (EQ)	a. Understanding of one's own emotions: always being aware, & not blaming oneself. b. Managing one's emotions: not being turbulent in managing emotions & mastering one's feelings. c. Self-motivation: positive thinking, self-control, and enthusiasm. d. Understanding other people's emotions: sensitivity, sociability, and understanding others. e. Maintaining good relationships: expressing yourself, being open, and holding back emotions.

Note: The author compiled the indicators for these research variables using the literature review analysis Method

1. Conceptual Framework

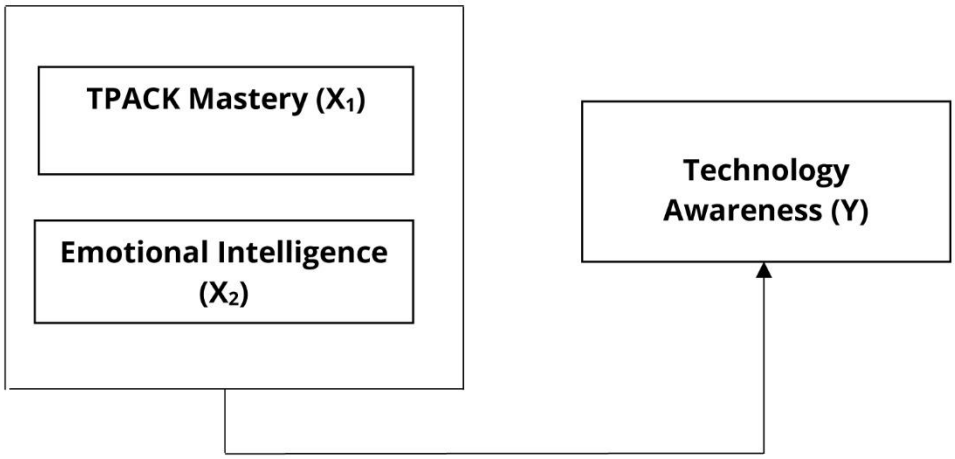

Figure 1. The Constellation of Research problems

The instrument validity test uses the Producy Moment coefficient (r) formula; and the reliability test uses the Alpha Cronbach coefficient (r) formula. The research instrument trial used a sample of 30 (thirty) people (outside the research respondents) with the number of statement items for the 3 (three) instruments of 12 statement items each. The answer to the instrument statement uses a Likert scale of 1-5, the meaning of which is: 5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree. The instrument is said to be valid if r count ≥ 0.361 (r product moment); and reliable if r count ≥ 0.6 (Sugiyono, 2010). The results of the validity & reliability test can be seen as Table 2. below

Table 2. Test Results of Validity & Reliability of Research Instruments

No	Variable	Valid Instruments	r-Product Moment (r ≥ 0.361)	Reliability Coefficient (Alpha-Cronbach)	Description
1	Technology Awareness	11	0.399 – 0.681	0.754	Valid and reliable
2	Mastery of Technological Pedagogical Content Knowledge (TPACK)	9	0.381 – 0.566	0.790	Valid and reliable
3	Emotional Intelligence	6	0.482 – 0821	0.801	Valid and reliable

Note: only valid instruments are performed reliability test

Result

1. Characteristics of the Respondents.

The profile of the research respondents is a graduate of the Master of Educational Technology of As-Syafi'iyah Islamic University (UIA) who works as a teacher with an average work experience of more than 10 years. The age of most respondents ranged from 40-50 years old, indicating a stable emotional level. The average respondent already has teacher certification (more than 2 years of service), and many have attended TPACK training; so that the respondents are suitable as samples for this study. The respondents' profile data is presented in Table 3 below:

Table 3. Characteristics of the Respondents

No	Characteristics of the Respondents	Number of Respondent	Percentage (%)
1	Sex:		
	a. Female	29.	34.52
	b. Male	55	65.48
	Sum	84	100
2	Age:		
	a. 25 to 30 years	4	4.76
	b. 30 to 40 years	38	45.24
	c. 41 to 50 years	36	42.86
	d. 51 to 60 years	6	7.14
	Sum,	84	100
3	Education Background:		
	Master Students	84	100

2. Descriptive Analysis

Table 4. Results of Descriptive Analysis of Mean Y, X_1, and X_2

		Technology Awareness (Y)	TPACK Mastery X_1	Emotional Intelligence (X_2)
N	Valid	84	84	84
	Missing	0	0	0
Mean		3.8788	3.9696	3.6964
Std. Error of Mean		.04838	.04447	.05260
Median		3.9091	4.0000	3.6667
Mode		3.91	4.11	3.50[a]
Std. Deviation		.44342	.40755	.48205
Variance		.197	.166	.232
Range		2.09	2.78	2.83
Minimum		2.91	2.11	2.00
Maximum		5.00	4.89	4.83
Sum		325.82	333.44	310.50

The average data (mean) of the three research variables: technology awareness (Y) = 3.8788, TPACK mastery (X_1) = 3.9696, and EQ (X_2) = 3.6964. The mean scores show that the teachers (respondents) have a high technology awareness (3.88 ≈ 4.0), high TPACK mastery (3.97 ≈ 4.0), and high emotional intelligence (3.69 ≈ 4.0). The average data (mean) of the three research variables are presented in Table 4 below:

3. Test Analysis Requirements

Before multiple regression analysis is carried out, analysis requirements are tested, which include normality, heteroscedasticity, autocorrelation, and multicollinearity tests, and all four must be met so that the regression analysis results in this study are feasible to use. Normality tests are carried out to test whether the research data is normally distributed. The normality test was carried out on all variables (3 variables) with a total of 84 respondents' data using the Kolmogorov-Smirnov test (using residual regression data); the result shows the value of Asymp. Sig = 0.200 > 0.05 shows that the data of the three research variables are normally distributed.

The heteroscedasticity test is carried out to test whether the error in this study has the same variance or not (using residual regression data). Research using multiple regression requires "no heteroscedasticity," so regression results are expected to be good. The results of the heteroscedasticity test indicate the constant Sig. = 0.631 > 0.05, Sig. mastery of TPACK = 0.292 > 0.05, and Sig. emotional intelligence = 0.134 > 0.05; and it indicates F-Sig. = 0.298 > 0.05. This shows that there is no heteroscedasticity.

Autocorrelation tests are intended to test whether the data error in a certain period correlates with another period. The test method uses Durbin-Watson (DW). In this study the Durbin-Watson value of 1.888 was obtained, (value ranges above -2 and below 2). In this study DW value is above the value of -2 and below the value of 2, so there is no autocorrelation in this study.

The multicollinearity test is intended to test whether this study's multiple linear regression model contains a correlation between dependent variables. Multicollinearity testing is shown by looking at the tolerance value and the variance inflation factor (VIF). In this study, the tolerance value for TPACK mastery & EQ = 0.985 (the requirement is close to 1), and the VIF for both = 1.016 (the requirement is around 1); so it can be concluded that among the dependent variables (X_1 and X_2), there is no multicollinearity. The four test conditions of the analysis above were satisfied. Hence, the results of this study's regression analysis were usable.

4. Relationship between TPACK Mastery and Emotional Intelligence, Simultaneously with Teachers' Technological Awareness

The results of the multiple correlation analysis between TPACK mastery (X_1), and emotional intelligence (X_2) together with technology awareness (Y) produce a multiple

correlation coefficient value R = 0.489 (see Table 5); this shows that the relationship is positive, and moderately strong relationship (Sugiyona, 2010).

Table 5. Results of Multiple Correlation Analysis

Model Summary									
				Change Statistics					Durbin-Watson
Model	R	R Square	Adjusted R Square	R Square Change	F Change	df_1	df_2	Sig. F Change	
1	.489[a]	.239	.220	.239	12.700	2	81	.000	1.888

a. Predictors: (Constant), X_2, X_1
b. Dependent Variable: Y

Furthermore, the value of the coefficient of determination (R^2) shows a value = 0.239 (significant or real effect), because the value of sig F < 0.05 (0.00 < 0.05), this explains that the contribution of TPACK mastery and emotional intelligence together to the achievement of technology awareness is only 23.90% and the remaining by other important factors. The complete results of the analysis of the multiple correlation coefficient (R) and determination coefficient (R^2) can be seen in Table 5 above:

5. The Mathematical Model of TPACK Mastery and Emotional Intelligence Significant as Predictors of Teachers' Technological Awareness Achievement

The results of the analysis of the variance (ANOVA) of the relationship between mastery of TPACK (X_1) and emotional intelligence (X_2), together with technological awareness (Y), can be seen in Tables 6 and 7 below:

Table 6. ANOVA Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.896	2	1.948	12.700	.000[b]
	Residual	12.423	81	.153		
	Total	16.319	83			

a. Dependent Variable: Y
b. Predictors: (Constant), X2, X1
c. F tabel $_{(2,81)}$ = 3.44

Table 7. Coefficient Analysis Results

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.587	.505		3.139	.002		
	TPACK Mastery (X_1)	.215	.106	.198	2.023	.046	.985	1.016
	EQ (X_2)	.389	.090	.423	4.330	.000	.985	1.016

Based on the results of the coefficient analysis of multiple regression, as shown in Table 7 above, a linear regression model can be formulated for the relationship between technological awareness (Y) with mastery of TPACK (X_1) and emotional intelligence (X_2).

$$Y = 1.587 + 0.215\ X_1 + 0.389\ X_2$$

The significance test results on the regression constant, namely a = 1.587 Sig. Value = 0.002 (see Table 7), which shows 'significant' because the Sig value < 0.05 (0.002 < 0.05), meaning that the constant a = 1.587 has a real influence on the contribution of achieving technological awareness, but the score of 1,587 shows a low constant value from the score range of 1 to 5. The significance test results of the regression coefficient X_1, namely b = 0.215 (see Table 7), show 'significant' because the value of Sig. < 0.05 (0.046 < 0.05). It means that the TPACK mastery variable (X_1) has a real effect on the magnitude of teachers' technology awareness. The significance test of the regression coefficient X_2, namely c = 0.389 (see Table 7), showed 'very significant' because of the value of Sig. < 0.05 (0.000 < 0.05); this means that the emotional intelligence variable (X_2) has a very real effect on the high and low levels of technology awareness of teachers. The emotional intelligence variable has a higher influence on sensitivity than TPACK mastery in achieving teacher technology awareness, which is 0.389 > 0.215.

The significance test results of the multiple regression model Y = 1.587 + 0.215 X_1 + 0.389 X_2 showed 'very significant' because the values of Sig. 0.000 < 0.05 and the value of F calculated > F table (2.81) of = 12,700 > 3.44 (see Table 6). It means that the model Y = 1.587 + 0.215 X_1 + 0.389 X_2 is significant to be an instrument to predict highs and lows or to increase the level of technological awareness of teachers, using TPACK mastery data (X_1) and emotional intelligence (X_2), if the data of the two independent variables are known. The multiple linear regression model Y = 1.587 + 0.215 X_1 + 0.389 X_2 means that if there is no element of TPACK mastery (X_1 = 0). There is no element of emotional intelligence (X_2 = 0); the magnitude of the teacher's technology awareness score reaches 1.587, included in the low category. Therefore, mastery of TPACK and emotional intelligence plays an important role and is considered in achieving the level of technological awareness of teachers. Apart from that, many other important factors influence technology awareness.

Discussion

The correlation coefficient between TPACK mastery and emotional intelligence together with teachers' technological awareness shows a value of = 0.489, this means that the relationship between TPACK mastery and emotional intelligence together with technological awareness is positive & moderately strong relationship (Sugiyono, 2010); although the contribution of TPACK mastery and emotional intelligence together to the achievement of technological awareness is only = 23.90%. It should be noted that many

other important variables affect the level of technology awareness of a teacher; according to Siregar et al (2016) & Lumbangaol et al (2021) there are 4 components related to learning support technology, namely: a) techno-ware; b) human-ware; c) info-ware: d) organ-ware. From the four important components of learning support related to technology, only one component, namely human-ware used in this study (TPACK mastery and emotional intelligence of teacher), so that the logical contribution only reaches 23.90%. For further research related to technology awareness, it is recommended to consider the predictor variables of 4 (four) technology components: a) techno-ware; b) human-ware; c) info-ware; d) organ-ware.

In this study, it is found that the regression model (prediction) for strengthening teachers' technological awareness with predictors of TPACK mastery and emotional intelligence (EQ) is Y = 1.587 + 0.215 X1 + 0.389 X2. This model is very significant to be used as an instrument for 'strengthening technological awareness' of teachers through the human-ware component, namely teacher human resources, which includes: mastery of TPACK and emotional intelligence of teachers. The model means: if the teachers' mastery of TPACK and emotional intelligence is low or = 0, then the teachers' technological awareness achievement score is also low, which only reaches = 1.587.

The implication of this finding is that teachers must have high TPACK & emotional intelligence scores; therefore, TPACK mastery and emotional intelligence play an important role and are absolutely considered in achieving the level of technological awareness of teachers, although there are still many other important factors that affect technological awareness. In the digital era, teachers must have a high technology awareness score, for example: at least 4.0 or 5.0; but keep in mind as observed by Djiwandono in Kusuma et al (2021) that teachers' perceptions of ICT are high (high ICT awareness), but do not necessarily result in a high level of ICT implementation.

In the mathematical model of strengthening technology awareness, Y = 1.587 + 0.215 X_1 + 0.389 X_2, it was found that emotional intelligence has a stronger influence on sensitivity than the influence of mastery of TPACK in predicting the achievement of technology awareness level (0.389 > 0.215). Learning process activities are predominantly emotional practices of teachers that require empathy from their students. Empathy is central to the capacity of learners to engage positively with learning problems, so the success of the student learning process, in turn, tends to depend on teachers who have a high level of emotional intelligence (Corcoran & Tormeyb, 2010).

Furthermore, the results of Anggraeni et. al. (2025) research show that the technological awareness of digital application users can increase the ease of use and usability of applications by application users (Government officials), so this implies the need for continuous efforts to increase technological awareness to digital application users (in this case including teachers). This implication is supported by the results of

Sumaryono & Ismia's research (2023) that when users find technology that is easy to use and brings benefits, the adoption of technological applications will increase, thus it can be concluded that various learning technology applications will be easily adopted by teachers, when teachers have high technological awareness. Increasing users' technological awareness, simplifying usage procedures, and ensuring adequate data security will increase the actual usage rate of digital applications (Anggraeni et al, 2025).

Sedique's (2017) research shows that educational administrators who lead technology policy development and oversee various aspects of technology implementation (in California) should have a strong technological awareness related to the implementation of modern educational technology and its interaction with curriculum and pedagogy. The Sedique's research results support and strengthen the results of this study that teachers' mastery of TPACK is positively related to technology awareness. Other research results that support this research are research from Salacop and Basmayor (2024) which states that there is a significant relationship between the level of technology utilisation in learning activities and the level of technological awareness of students at MSU-Saguiaran Community High School (Mindanou - Philipphines).

Conclusion

The conclusions of this study indicate that the relationship between TPACK mastery & emotional intelligence together with technological awareness is positive and moderately strong relationship; and both make a very real contribution to the achievement of technological awareness by 23.90%. The variable of emotional intelligence has a higher sensitivity of influence than the mastery of TPACK in achieving teachers' technological awareness, with the mathematical model $Y = 1.587 + 0.215\ X_1 + 0.389\ X_2$. The model is very significant, so it can be used as an instrument to predict the achievement of teachers' technological awareness. It is suggested that teachers must increase technological awareness through increasing the application of TPACK in their learning process, and be diligent and patient in guiding students in the use of various digital learning applications. For further research related to technology awareness, it is suggested to consider predictor variables from 4 (four) technology components: a) techno-ware; b) human-ware; c) info-ware; and d) organ-ware.

References

Abbitt JT. (2011) Measuring Technological Pedagogical Content Knowledge in Preservice Teacher Education: A Review of Current Methods and Instruments. *Journal of Research on Technology in Education (JRTE),43* (4): 281-300. https://doi.org/10.1080/15391523. 2011.10782573.

Anggraeni, R., and Alijoyo, F.A. (2025). The Effect of Technology Awareness and Government Support on The Acceptance of Identitas Kependudukan Digital Apps In

Sumedang Using Tam Framework. *Journal Of World Science*, *4*(1), 7-21. https://doi.org/ 10.58344/jws.v4i1.1271.

Anunobi, and Njideka, V. (2015). A Study of the Information and Communication Technology use among student-teachers in universities in North Central Nigeria. *Information and Knowledge Management 5*(1), 106–112.

Corcorana R. & Tormeyb R. (2010). Teacher education, emotional competencies, and development education. *Procedia Social and Behavioral Sciences*, *2*, 2448–2457. https://doi.org/10.1016/ j.sbspro.2010.03.352.

Dewi NR, Rusilowati A, Saptono S, Haryani S, Wiyanto, Ridlo S, Listiaji P, and Atunnisa R. (2021). Technological, Pedagogical, Content Knowledge (TPACK) Research Trends: A Systematic Literature Review of Publications Between 2010 – 2020. *Journal of Turkish Science Education*, *18*(4), 589-604. https://doi.org/10.36681/ tused.2021.92.

Goleman, D. (2016). *Emosional Intelligence (Kecerdasan Emosional): Mengapa EI Lebih Penting daripada IQ* (21st ed.). Jakarta: PT Gramedia Pustaka Utama.

Indriartiningtias, R. Rahadiyan, WA., Subagyo, S., and Hartono, B. (2020). Key Factors of Success: Technology Transfer from Higher Education to Creative Industry in Bangkalan, Madura. *Journal of Physics: Conference Series 1569*. https://doi.org/ 10.1088/1742 6596/1569/3/032028.

Koehler MJ & Mishra P. (2019). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, *9* (1), 60-70.

Konrad SC & Gabrijelčič MK. (2014). Importance of Emotional Intelligence in Teacher Profesional Development. *Didactica Slovenica*, *29*(2), 3–17.

Kurniasari P & Mardikaningsih A. (2022). Penerapan Model Pembelajaran Technological Pedagogical Content Knowledge (TPACK) Berbasis Android Untuk Meningkatkan Hasil Belajar Mahasiswa. *Jurnal Teknologi Pembelajaran (JTeP), 2*(2),1-8.

Kusuma, I.P.I. (2021). TPACK-Related Programs for Pre-Service English Teachers: An In-Depth Analysis on Efforts and Issues of ICT Integration. *Cakrawala Pendidikan, 40* (1), 183-195. https://doi.org/10.21831/cp.v40i1.2882.

Maghfiroh A., Styati, E.W., Fachriza, A., Khoiriyah, Simpol W., Syahputra R.A., Lathifah. (2023). Future-Ready Educators: Assessing Digital Competence and Teaching Preparedness Among Prospective Teachers in the 21st Century. *Indonesian Journal on Learning and Advanced Education (IJOLAE*), *6* (1), 47-61. https://doi.org/ 10.23917/ijolae.v6i1.23081.

Nagasubramani,P.C., & Raja,R.(2018). Impact of modern technology in education. *Journal of Applied and Advanced Research, 3*(1), S33-S35. https://doi.org/ 10.21839/jaar.2018. v3is1.16541T.

Pishghadam, R. & Sahebjam, S. (2012). Personality and Emotional Intelligence: Teacher Burnout. *The Spanish Journal of Psychology,* 15 (1), 227-236. http://dx.doi.org/ 10.5209/rev_SJOP. 2012.v15.n1.37314.

Rachman A. (2020). *Ini Peran dan Tuntutan Kompetensi Guru di Masa Pandemi [This Is the Role and Demands of Teacher Competence in the Pandemic*], (Ed) Adit, A. Kompas.com.

Safari. (2019). *Statistika*, Ed. Revisi. Universitas Islam As-Syafi'iyah..

Salacop, S. S. M., and Basmayor, E.N. (2024). Level of Technology Awareness and Extent of Technology Utilization at MSU Saguiaran Community High School*. Psychology And Education: A Multidisciplinary Journal,18*(8), 743-749*.* https://doi.org/10.5281/zenodo.10950723.

Sedique, A.N. (2017). School district technology awareness: a descriptive study identifying implications for the 21st-century teaching and learning. Theses and Dissertations. 953.

Siregar, I., Sari, RM., Syahputri, K., Rizkya, I., Hanifiah, Y., Muchtar, MA. (2016). Indicators Coefficient Calculation Using Technoware, Humanware, Organware, and Infoware. *Advances in Social Science, Education, and Humanities Research (ASSEHR), 81, 89-95.*

Sojanah J, Suwatno, Kodri, & Machmud A. (2021) Factors Affecting Teachers' Technological Pedagogical and Content Knowledge (A Survey on Economics Teacher Knowledge). *Cakrawala Pendidikan*; *40* (1), 1-21. https://doi.org/10.21831/cp.v40i1.31035.

Sudibjo N & Sutarji T. (2020). The roles of job satisfaction, well-being, and emotional intelligence in enhancing the teachers' employee engagement. *Management Science Letters, 10*, 2477–2482. https://doi.org/10.5267/j.msl.2020.4.002.

Sugiyono. (2010). *Statistik Untuk Penenlitian*. Cetakan ke-16. Bandung: Alfabeta.

Sumaryono, D., & Ismia3. (2023). Technology Acceptance Model (TAM) Sebagai Tools Penilai Penerimaan Kader Posyandu Remaja Bina Karya Terhadap Sistem Informasi Sms Gateway One Way Remainder Melaksanakan 7 Pesan Germas Berbasis Android. Media Informasi, 19(1), 20–28. https://doi.org/ 10.37160/bmi.v19i1.69

United Nations, *United Nations Competency Development. (2010). A Practical Guide*. New York: United Nations, Human Resources Management, 186 p.

Valente, S., Lourenço, AA., Alves, P., and Dominguez-Lara, S. (2020). The Role of The Teacher's Emotional Intelligence for Efficacy and Classroom Management. *CES Psicología,13*(2), 18-31. http://dx.doi.org/10.21615/cesp.13.2.2.

Wyk. RJ. (2020). Towards Technological Awareness and Wisdom. *South African Journal of Industrial Engineering, 31*(4)*,* 1-8. http://dx.doi.org/10.7166/31-4-2274.