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Perception of Islamic Religious Education Teachers Based on TPACK

***Dahlia El Hiyaroh[1], Ifa Dotus Salimah[2], Muhammad Thohir[3]**
[1,2,3]Universitas Islam Negeri (UIN) Sunan Ampel Surabaya,
Jl. Ahmad Yani No.117, Kota SBY, East Java, Indonesia
*elhiyaroh10@gmail.com

Abstract: *This article analyzes the TPACK-based Islamic Religious Education Teacher's Perception at SMK Negeri Rengel-Tuban. This article uses descriptive qualitative research methods. Data were collected using observation, interviews, and surveys through the google form application. This study's participants comprised six people with details one female teacher and five male teachers. The results of this analysis indicate that PAI teachers at Rengel State Vocational School have a good perception of the use of the TPACK (technological pedagogical content knowledge) model and have a vital role in the field of Islamic Religious Education, namely, by mastering TPACK, PAI teachers can present innovative learning. And creative and effective in the classroom, implementing online learning through TPACK has succeeded in increasing teacher competencies such as online classroom management competencies.*

Keywords: *Islamic Religious Education, PAI Teachers, TPACK.*

Introduction

Nowadays, technology and information are developing rapidly and comprehensively, which can be found in various fields of life, including education. Education is required to keep pace with the pace of technology and information and must be adaptive in responding to this. Educational Practice must also be adapted to the times so that students can adapt to obtain the required competencies. Adapting to the transformation of the times needs to be done intelligently so as not to be dragged down by the negative changes of globalization that can threaten students' futures (Anwar, 2022).

The Partnership for 21st Century Learning states that there are several competencies that students must master, namely 1) learning and innovative skills (Critical Thinking, Creative, Communication, Cooperation), 2) Knowledge, Media and Technology skills and 3) life

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and career skills (Rahayu & Widiana, 2021). To achieve these competencies, professional teachers are needed who not only master science but also have integrated skills and attitudes. With the development of today's technology, teachers are also required to master digital skills as an integrated part of learning.

These skills are combined as TPACK (Technological Pedagogical Content Knowledge). TPACK integrates the relationship between technology, pedagogy and content knowledge components that teachers must possess in implementing learning (Rahmadi, 2019). In this case, teachers cannot only deliver teaching materials with exciting methods. Still, they can also balance them with technology to create harmony between technology, pedagogy and material content, as mentioned. TPACK components consist of Technology Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPCK) (Quddus, 2019).

It has been mentioned in the Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers that four competencies must be possessed by a teacher: academic competence, personality competence, social competence, and professional competence. Teacher scholastic competence is the ability to manage to learn, personality competence reflects a teacher's knowledge, and social competence is the teacher's ability to interact. In contrast, professional competence is the teacher's ability to master teaching materials, science, technology, and so on (Rafi & Sabrina, 2019).

Ibnu and Nurita mentioned that TPACK could help teachers to give students a good understanding of learning material. Adequate TPACK competence is beneficial for teachers in learning because the learning process will be more situational, dynamic and complex to create a learning atmosphere that is fun, active, innovative and creative (Pulungtana & Dwikurnaningsih, 2020). The teacher is one of the factors determining the success and achievement of educational goals because the teacher is the character who most often interacts with students (Ikhwan, 2017). This is because the teacher is responsible for carrying out the learning process, conducting training guidance, and providing learning assessment results to students. The success of a learning process can be ascertained that there is an essential role for the teacher.

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Method

This research uses the descriptive qualitative study to describe systematically. Data were collected using observation, interviews, and surveys through the google form application. There were six informants in this study, with details of 1 female teacher and five male teachers. The data in this study were taken without changes because the researchers did not provide treatment and responses to the research object. A sample of the ability of Technological Pedagogical Content Knowledge (TPACK) on Islamic Religious Education teachers. The research instrument used was observation, interviews, and supported surveys. The first step of this research is data reduction, data presentation, and conclusion drawing/verification (Ikhwan, 2021).

Result and Discussion

TPACK Integration in Learning

Technological, Pedagogical and Content Knowledge (TPACK) is a framework of knowledge needed by teachers to integrate the use of technology effectively in learning (Sintawati & Indriani, 2019). This knowledge consists of Technological Knowledge (TK), namely knowledge in the use of technology, Pedagogical Knowledge (PK) which is knowledge about learning management and students, and Content Knowledge (CK) which is knowledge of the material to be delivered in class as well as knowledge related to the three previous knowledge to facilitate students in learning (Maharani et al., 2021). Furthermore, according to Koehler and Mishra, understanding of TK, PK, CK, and the relationship between three other pieces of knowledge, namely Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), and Pedagogical Content Knowledge (PCK), includes (Eliyanto, 2021):

1. How to present material using existing technology
2. Constructive use of technology in pedagogical techniques used in learning materials
3. Utilization of technology to make it easier for students to understand the material that is difficult to learn
4. Initial knowledge of students
5. Build and strengthen students' knowledge by utilizing technology.

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The TPACK component consists of TK, PK, CK, TPK, TCK, and PCK, which are interconnected (Lestari, 2016). More specifically, Technological Knowledge (TK) is a teacher's knowledge of the appropriate use of technology in learning, including teachers' ability and adaptation to technology (Sholihah, Yuliati, & Wartono, 2016). In addition to teaching in the classroom, teachers must keep learning and updating their knowledge of the latest technology to assist in the learning that will be delivered to students. This is done to keep pace with the times with technology that continues to develop so that students are familiar with existing technology.

Pedagogical Knowledge (PK) is a teacher's knowledge related to lesson plans and evaluation of learning outcomes, models, strategies and learning methods that can be used and the teacher's understanding of the characteristics of students (Nurul Hidayati, Punaji Setyosari, 2018). This knowledge also includes the ability of teachers to adopt new learning methods and even allows them to create learning strategies that suit the needs of students. With good educational knowledge, teachers can determine appropriate learning methods and models in the learning process after understanding the characteristics of students in the classroom.

Content Knowledge (CK) is a teacher's mastery of a subject matter broadly and deeply (Nofrion, Wijayanto, Wilis, & Novio, 2018). Teachers must understand that learning materials are undoubtedly different at each level of education, so broad insight and willingness to continue to enrich themselves with new knowledge about a learning material to be delivered are required. Equally important is that the delivery of material to students must be adjusted to the abilities and levels of each level of education that is carried out.

Technological Content Knowledge (TCK) is the ability of a teacher to deliver teaching materials with the help of technology. TCK includes the ability of teachers to describe the material to be provided in different ways through the use of technology that was not possible before (Ismail & Imawan, 2021). Teachers' ability with TCK can be interpreted as accuracy in using and determining technology in transferring material to students so that they can change students' new views on the material received. Mastering technology to deliver teaching materials will also facilitate the teacher's learning process and introduce technology to students.

Pedagogical Content Knowledge (PCK) is the ability of a teacher to deliver learning materials to students using specific learning methods or strategies (Prasetia, Khalidiyah, & Arif, 2021). PCK is the

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teacher's accuracy in choosing and determining an approach or learning model by the material given to students. Not all learning models and strategies will be suitable for all teaching materials, so teachers must know the compatibility between the materials and learning strategies and then adjust them to the characteristics of students.

Technological Pedagogical Knowledge (TPK) is the ability of prospective teachers to utilize technology that can support learning tools used in their application in the classroom. TPK is a reciprocal relationship between pedagogy and technology (Suyamto, Masykuri, & Sarwanto, 2020). From the explanation of the components of TPACK above, it can be concluded that TPACK is the ability of teachers to integrate the knowledge of learning materials and strategies with technology. This is what teachers need to master the competencies possessed in the subjects being mastered. Optimizing TPACK will result in a more enjoyable, effective and efficient learning process because it prioritizes not only cognitive mastery but also attitudes and character building of students. Professional teachers will certainly face increasing challenges in the future. Mastery of the components of TPACK will maximize teacher competence, including pedagogy, social, personality and professional.

To face the challenges and needs of today's education, teachers must prepare themselves with technological capabilities to give maximum impact in learning based on TPACK (Bahador, Bin Othman, & Bin Saidon, 2017). Knowledge of teachers in the world of education today must be dynamic and follow the times in the technology field. This can be done by constantly self-actualizing with technological developments that continue to advance. There are times when students' ability in technology exceeds the teacher's knowledge, thus requiring teachers to be more active in learning and mastering technology in the learning process to attract.

Response of Islamic Religious Education Teachers at SMK Negeri Rengel-Tuban

At the beginning of the study, questionnaires were distributed to 6 religious teachers at SMK Negeri Rengel. The percentage of responses can be seen in the diagram below:

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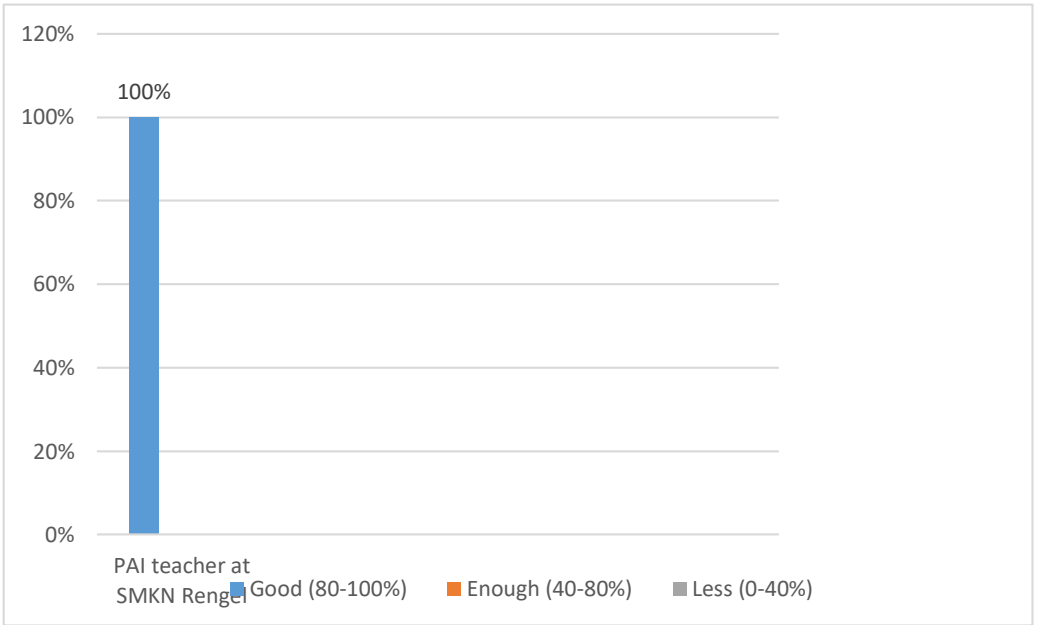
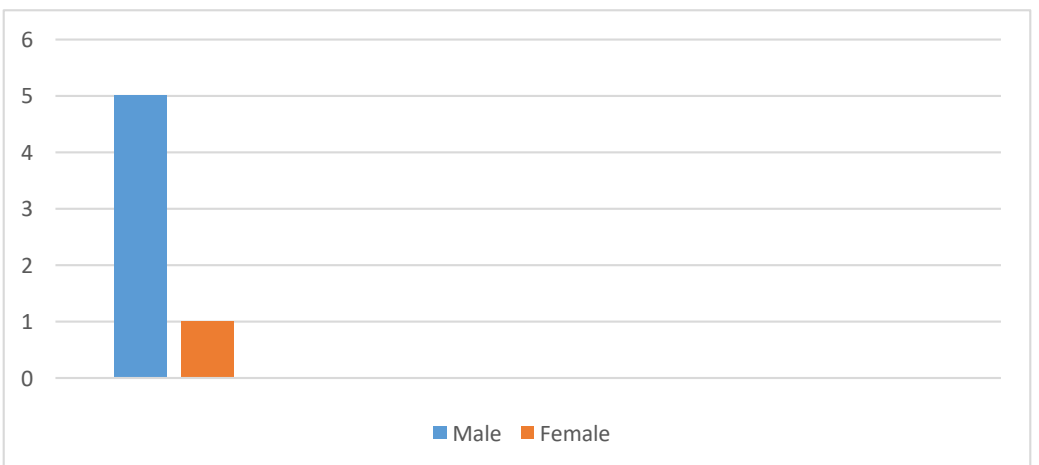


***Graph 1.** Percentage of teacher responses*

From the diagram, it can be concluded that of the six respondents, all gave good responses to answer the questionnaire given to the PAI teacher at Rengel State Vocational School. This can be completed from the completeness of filling in the identity and questions in the survey and filling in according to the specified time.

Next, data will be presented on the number of respondents based on the gender of PAI teachers at the Rengel State Vocational School. The data can be seen in the diagram below:



***Graph 2.** Number of respondents by gender*

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From the diagram above, it can be seen that one female gender and five male gender members are members of the PAI teacher at Rengel State Vocational School.

Perception of Islamic Religious Education Teachers towards TPACK

All Islamic religious education teachers who are members of the Rengel State Vocational School responded positively because they all realized that TPACK was a critical model in teaching. With TPACK, they feel that innovative subjects can be more interesting so as not to bore students and increase the effectiveness and efficiency of learning objectives.

The questionnaire in this study consisted of six items, namely CK (4 items), PK (5 items), PCK (8 items), TK (7 items), and TPACK (4 items). The questionnaire given to the 12 respondents consisted of 18 questions with details on questions 1 - 4 (TK), 5-8 (PK), 8-11 (CK), 12-14 (TPTCK), 15-16 (PCK), and (TPACK) 17-18. The questionnaires given to teachers are the components of the TPACK components, which are as follows:

Table 1. Survey grid

Component	Items	Measurement/Statement
Content Knowledge	CK1	Know students
	CK2	Able to understand student material like a subject matter expert
	CK3	Gain a deeper understanding of student material
	CK4	Knowing about how to teach subject matter
Pedagogical Knowledge	PK1	Able to guide students to adopt appropriate learning strategies
	PK2	Able to help students to monitor their learning
	PK3	Able to help students to reflect on their learning strategies
	PK4	Able to plan group activities for students
	PK5	Able to guide students to discuss effectively during group work

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Pedagogical Content Knowledge	PCK1	Able to overcome common misconceptions students have for students
	PCK2	Able to determine approaches in learning that are efficient and effective to help students think about and learn from the subject matter
	PCK3	Able to help students to understand the knowledge of the content of the subject in various ways
	PCK4	Able to overcome common learning difficulties students have with other students
	PCK5	Able to facilitate discussion
	PCK6	Able to involve students in solving real-world problems related to students
	PCK7	Able to involve students with an activity to learn the content of the subject
	PCK8	Able to support students in managing their learning
Technological Knowledge	TK1	Have the technical skills to use computers effectively
	TK2	Able to learn technology easily
	TK3	Able to do self-reconstruction in terms of technology
	TK4	Mastering up-to-date technology that can support learning
	TK5	Able to create a Blog/Web
	TK6	Able to use social media (e.g. Instagram, Facebook, Twitter)
	TK7	Have web-based communication tools (Whatsapp, Line, Google classroom, Skype, etc.)
Technological Pedagogical Content Knowledge	TPCK1	Able to filter technology used in learning that improves all forms of teaching, teaching methods, and

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		what students learn
	TPCK2	Have a strategy that collaborates material, technology and teaching approaches that have been learned in the classroom
	TPCK3	Have a leadership spirit in helping others to coordinate materials, technology, and teaching methods in educational institutions
	TPCK4	Able to integrate technology, content, and pedagogics so that learning can be student-centred

Table 2. Percentage of teacher responses in filling out the questionnaire

Subject	Divided Questionnaire	Questionnaire Filled	Percentage
PAI teacher SMKN Rengel	6	6	100%

In table 2, it can be seen that there was a good and positive response from all PAI teachers at Rengel State Vocational School to fill out the questionnaire marked by enthusiasm and a friendly initial acceptance attitude. The results of scoring from the survey were analyzed by finding the average of the resulting questionnaire scores.

Table 3. Average teacher's overall perception

Subject	Respondents	Questionnaire Score	Total	Average	KT
Male teacher	5	420	510	85	Tall
Female teacher	1	90			

This study indicates that the perception of a PAI teacher at Rengel State Vocational School on TPACK in the subject of Islamic Religious Education obtains high results. In terms of gender, male and female teachers are almost comparable with an average score of 85 and get high information.

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Conclusion

This research article proves that PAI (Islamic Religious Education) teachers' perception of TPACK at the SMK (Vocational High School) level has good perception. The teachers had a positive response from 6 teachers consisting of 5 male teachers and one female teacher who enthusiastically filled out the survey with perfect percentages. The average poll showing that the score has a high conversion value means having an expert ability in using the TPACK model. In addition, there was a good response marked by high enthusiasm in filling out the survey. Teachers in the 4.0 era are required to know TPACK because of the many demands and technologies that exist today. However, it should be underlined that good perception and expertise will be in vain if the teacher cannot apply them in teaching and learning. This TPACK model is considered very important, especially in all subjects, mainly Islamic religious education, so that all components of technology, pedagogy, and content can synergize so that the effectiveness and efficiency of learning achievement can be fulfilled.

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