EDUKASIA ISLAMIKA
Jurnal Pendidikan Islam
Vol. 6 No. 2, December 2021, hlm. 144 - 163
P-ISSN: 2548-723X 1; E-ISSN: 2548-5822

Islamic Education Teachers' *Technological Pedagogical Content Knowledge (*TPACK): A Study in Indonesia

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DOI: https://doi.org/10.28918/jei.v6i2.4245		
Received: August 13, 2021	*Revised: Desember 14, 2021*	*Approved: Desember 28, 2021*

Abstrak
Penelitian ini bertujuan untuk menganalisis kemampuan pengetahuan guru PAI tentang pengetahuan TPACK. Penelitian ini merupakan penelitian kualitatif dengan subjek penelitian berjumlah 25 guru PAI yang tersebar di berbagai sekolah di Kebumen. Instrumen yang digunakan dalam penelitian ini adalah lembar observasi dan lembar wawancara. Teknik analisis data menggunakan model yang dikembangkan oleh Miles and Huberman yaitu *data collection, data reduction, data display, and conclusions.* Hasil penelitian membuktikan bahwa pengetahuan guru PAI terhadap TPACK tergolong cukup baik. Namun perlu ditingkatkan dalam mengintegrasikan teknologi secara efektif dan menerapkan berbagai jenis teknologi yang tepat ke dalam pembelajaran agama Islam. Beberapa solusi yang dapat ditawarkan adalah dengan memberikan fasilitas yang memadai dalam menerapkan TPACK, adanya pemahaman dan pelatihan terhadap TPACK, dan praktik TPACK yang dilakukan secara kontinu.

Kata Kunci: Pendidikan Agama Islam, *technological pedagogical content knowledge* (TPACK), profesionalisme guru

Abstract
This study aims to analyze the knowledge ability of Islamic education teachers about TPACK knowledge. This research is a qualitative research that involved 25 Islamic education teachers from various schools in Kebumen regency as the research subject.

DOI: https://doi.org/10.28918/jei.v6i2.4245

The instruments that used in this study were observation sheets and interview sheets. The data analysis technique which used was the model developed by Miles and Huberman, namely data collection, data reduction, data display, and conclusions. The results of the study prove that the knowledge of Islamic education teachers on TPACK is quite high. However, integrating technology effectively and applying various types of appropriate technology into Islamic religious learning should be improved. Some of the solutions that can be offered are by providing adequate facilities in implementing TPACK, understanding and training of TPACK, and continuous TPACK practices.

Keywords*: Islamic education, technological pedagogical content knowledge (TPACK), teacher professionalism*

INTRODUCTION

As a country with the largest Muslim population in the world, the Indonesian government has integrated Islamic education into the school curriculum from elementary to upper levels (Hidayati, 2016). This integration is also developed with the existence of a hidden curriculum in the form of Islamic activities at schools. These efforts are seen as an important means to increase the understanding and practice of Islamic values. The practice of Islamic values can form the character of children to have a good personality (*akhlakul karimah*) (Alfauzi & Choiriyah, 2021). The formation of a good and noble personality is the first goal in the national education system. The purpose of the national education system is to develop the potential of students to become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Law on the National Education Sisyem No.20/2003).

Reviewing the goals of the national education system, the most important character to be developed is the character of faith and piety to God Almighty and noble character (Abbas et al., 2021). These characters are the main goal in education in Indonesia, especially Islamic religious education. Islamic religious education has a very important role in forming students who have noble character. Therefore, the Islamic teachers not only should be able to have teaching competence, but also should have the commendable behavior to influence their student (Gui et al., 2020).

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Twenty First-century education is education where technology plays an important role in learning. In addition to optimizing technology in learning, Twenty First-century education also focuses on four skills, namely Critical Thinking and Problem Solving, Creativity, Communication Skills, and Ability to Work Collaboratively (Suryandari et al., 2017). These skills must be possessed by students in order to be able to become a superior generation and be able to compete globally. In addition to being able to develop the four core competencies of Twenty First-century education and developing religious character (*akhlakul karimah*), Islamic education teachers must be able to have good technological skills. This is in accordance with the characteristics of twenty first-century learning, namely the use of technology and information (Jima'ain et al., 2019).

The use of technology in learning is also a hallmark of learning in the era of industrial revolution 4.0. The challenges of an increasingly rapid world development require quality human resources and are required to master science, technology, and art. Therefore, it is important for a religious teacher to understand the management of learning effectively and efficiently in order to improve professionalism so that teachers are able to survive and compete globally.

In an effort to create learning that is able to develop the character and skills of students well, religious teachers are required to have high creativity and innovation so that learning is always varied and fun. Religious learning will be more fun if the teacher is able to manage the class well. One way that teachers can do this is to have Technological Pedagogical Content Knowledge (TPACK) competence. Technological Pedagogical Content Knowledge is the knowledge needed to integrate technology in learning. A teacher with good TPACK skills will be able to carry out learning effectively. Ministry of Education and Culture states that TPACK focuses on how knowledge of technology (Technological Knowledge), knowledge of Pedagogy (Pedagogy Knowledge), and knowledge of Content (Content Knowledge) can be combined in learning which will make learning effective and successful in a learning context.

DOI: https://doi.org/10.28918/jei.v6i2.4245

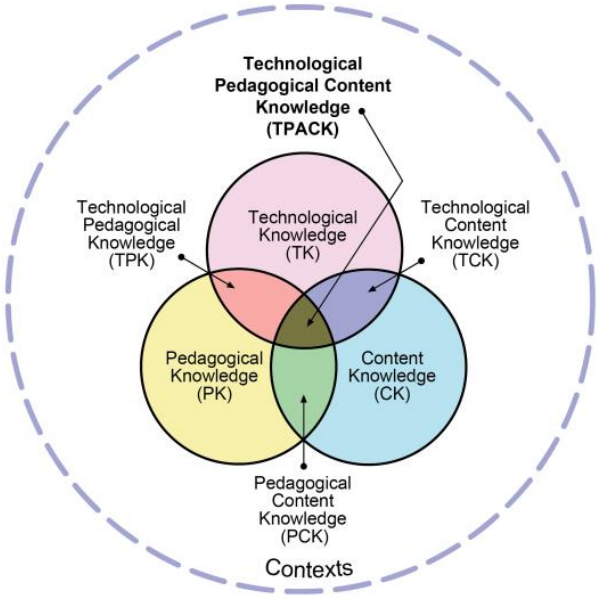

Figure 1. Technological Pedagogical Content Knowledge
Source:(Koehler & Mishra, 2009)

Based on Figure 1, there are three components of teacher knowledge, namely the subject matter of the field of study, pedagogy and technology. This model has three equally important intersections, namely the intersection between bodies of knowledge expressed as PCK (pedagogical content knowledge), TCK (technological content knowledge), TPK (technological pedagogical knowledge), and TPACK (technology, pedagogy, and content knowledge).

A research by Koehler & Mishra (Koehler & Mishra, 2009) describes seven domains of knowledge in TPACK, namely: 1) Content Knowledge is the teacher's knowledge of the subject matter to be studied or taught; 2) Technological Knowledge (TK) is teacher knowledge about technology that can support learning; 3) Pedagogical Knowledge (PK) is in-depth knowledge of processes and practices in delivering the material to be studied; 4) Pedagogical Content Knowledge (PCK), namely effective teaching requires more than just separating content understanding and pedagogy; 5) Technological Content Knowledge (TCK) is knowledge about how technology can create a new picture in certain materials (Schmidt et al., 2009); 6) Technological Pedagogical Knowledge (TPK) is an understanding of how learning can change when certain technologies are used in certain ways (Koehler & Mishra, 2009); 7) Technological Pedagogical and Content Knowledge (TPACK) is knowledge about complex interactions

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between domains of knowledge principles (content, pedagogy, technology) (Koehler & Mishra, 2009).

Some of the results of research that examines TPACK are the findings of Ma'mun, et al in 2021 which resulted in the finding that the TPACK of Arabic language teachers in Indonesia showed a fairly good category. The findings also show that even though teachers have good technological skills, in learning, especially in giving assignments and designing lessons, they are still minimal. Furthermore, the findings from Sahrir, et al in 2021 resulted in the finding that TPACK is very important for a teacher to have. This study analyzes the TPACK of Arabic teachers in Malaysia.

Based on the above background, in order to improve the professionalism of teacher, the TPACK competence of Islamic education teachers needs to be analyzed that the result can be used as one of the guidelines.

This research is a qualitative research with the subject of research are Islamic education teachers in Kebumen regency. It has involved 25 teachers from different level of schools, beginning from elementary school, junior high school, and high school. The utilized instruments in this study were observation sheets and interview sheets. The observation sheet is used to observe how Islamic education teachers in Islamic learning are arranged using a Likert scale consisting of five choices, namely very good, good, enough, not good, and very not good. The observed teacher TPACK measurement indicators consist of 7 aspects, namely technological knowledge (TK), pedagogical knowledge (PK), content knowledge (CK), technological pedagogical knowledge (TPK), technological content knowledge (TCK), pedagogical content knowledge (PCK), and technological pedagogical content knowledge (TPACK). The data analysis technique uses the model developed by Miles and Huberman, namely data collection, data reduction, data display, and conclusions.

The first stage in data analysis is data collection. The research data were collected into one. After being collected, the data is reduced/selected. Data reduction means summarizing, choose the basic things, focusing on important things, look for themes and patterns. The data taken to be the research result is data that is relevant to the focus of the

study, while irrelevant data is discarded. After obtaining the relevant data, the researcher presents the data in descriptive form which is then used as a conclusion in the study.

The observation sheet of Islamic education teacher TPACK ability was analyzed using several categories as shown in table 1.

No	Average Score	Category
1	4,21-5,00	Very Good
2	3,41-4,20	Good
3	2,61-3,40	Enough
4	1,81-2,60	Not Good
5	1,00-1,80	Very Not Good

RESULT AND DISCUSSION

This study was conducted to analyze the TPACK ability of Islamic education teachers. Figure 1 shows the percentage of the respondent based on gender. It indicates that for male teacher is 40% and female teacher is 60%.

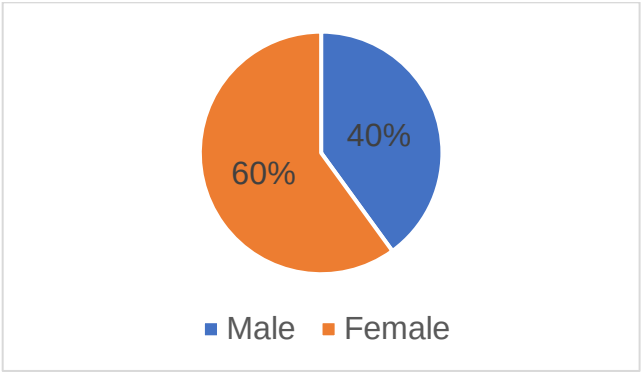

Figure 2. Description of The Gender of Islamic Education Teachers

The following are the analysis results of the Islamic education teachers TPACK abilities. It is based on the results of observations consisting of 7 aspects, namely technological knowledge (TK), pedagogical knowledge (PK), content knowledge (CK), technological pedagogical knowledge (TPK), technological content knowledge (TCK), pedagogical content knowledge (PCK), and technological pedagogical content knowledge (TPACK). Table 2 shows the results of the TPACK ability of Islamic education teachers. The results of the analysis show that the TPACK ability of Islamic education shows a fairly good category with a mean score of 3.13.

DOI: https://doi.org/10.28918/jei.v6i2.4245

Table 2. Results of TPACK Ability Analysis of Islamic Education Teachers

No	Aspect	Average Score	Category
1	Technological knowledge	2,80	Enough
2	Pedagogical knowledge	3,46	Good
3	Content knowledge	4,20	Good
4	Technological pedagogical knowledge	2,75	Enough
5	Technological content knowledge	2,68	Enough
6	Pedagogical content knowledge	3,41	Good
7	Technological pedagogical content knowledge	2,63	Enough
Total Average Score		**3,13**	**Enough**

1. Technological Knowledge

Technological knowledge is the knowledge possessed by teachers about the abilities possessed by teachers in recognizing various types of technology. The results of the analysis show that Islamic education teachers' knowledge of technology knowledge is in the fairly good category with an average score of 2.80.

Knowledge of technology is important to become a creative teacher. The observation results show that 92% of teachers have used laptop-based technology in their learning while 8% of teachers were still using old books. As long as using technology, Islamic education teachers can operate well and can recognize the menus in the technology section used. Like using a laptop, Islamic education teachers can operate the laptop independently and can connect it to a projector screen (see table 3) for more details.

Table 3. Results of Technological Knowledge Analysis

No	Aspect	Average Score	Category
1	Know the types of technology	3,00	Enough
2	Can use various types of technology	2,65	Enough
3	The technology used is easy to operate	2,70	Enough
4	The technology used is up to date	2,89	Enough
5	The technology used helps solve the problem	2,80	Enough
Total Average Score		**2,80**	**Enough**

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The ability to know various types of technology is an important provision for a teacher who wants to always be creative and innovative. This is because technology become as an integral part of achieving a significant increase the productivity of learning. Technology such as computers/laptops, smartphones, and other types of technology can be used to support learning.

Islamic education teachers who still like to use learning resources in the form of old books must be able to develop following the development of the world of education, namely using various learning resources, including technology. Learning resources that come from old books must also be updated. For example, such as doing searches on the internet which can be in the form of e-books, google books, electronic national libraries, and so on related to references for learning (Kholik et al., 2020). Updated references will also have an impact on student knowledge, which will be newer and have broader insights.

2. Pedagogical knowledge

Pedagogic knowledge is the knowledge that teachers have about the abilities possessed by a teacher in carrying out processes and practices during learning. The pedagogic abilities possessed by Islamic religious teachers are in the good category with an average score of 3.46. Based on the results of observations, teachers were able to carry out learning well. Starting from preparing learning scenarios, lesson plans, materials, and implementing the learning process and evaluation (see table 4).

Table 4. Results of Pedagogical Knowledge Analysis

No	Aspect	Average Score	Category
1	Understanding student character	4,10	Good
2	Can manage class well	3,00	Enough
3	Interact with students	3,00	Enough
4	Using various learning techniques/methods/strategies/media	2,95	Enough
5	Using a variety of assessment techniques	4,00	Good
6	Take reflective action to improve the quality of learning	4,15	Good
7	Creating learning tools that are in accordance with the characteristics of students	3,20	Enough

8	Using a variety of learning resources	3,30	Enough
	Total Average Score	**3,46**	**Good**

Based on the results of the analysis of learning tools that have been developed by teachers, the majority are in accordance with the 2013 curriculum. The following is a description of the making of Islamic religious learning tools developed by teachers.

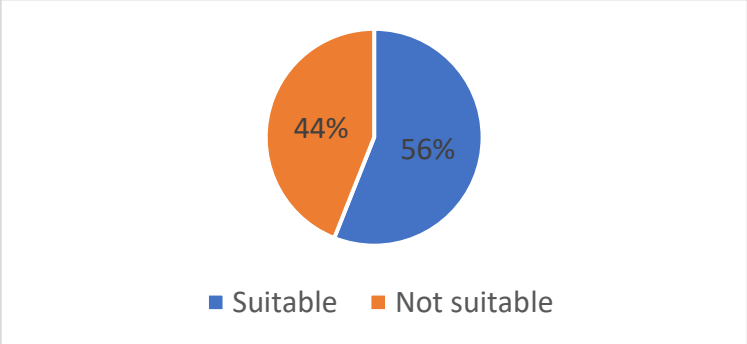

Figure 3. Description of Islamic Education Teacher Lesson Plans

Figure 3 shows a description of the lesson plans developed by Islamic education teachers. As many as 56% of PAI teachers have made lesson plans in accordance with the 2013 curriculum guidelines such as making learning scenarios and lesson plans using a scientific approach. Meanwhile, as many as 44% still have not applied the scientific approach to learning tools.

In the 2013 curriculum, the scientific approach must be used in all subjects including Islamic religious subjects. The scientific approach is believed to be an approach that can optimize student competencies in cognitive, affective, and psycho-motor aspects in a balanced way. So that there are no more teachers who prioritize cognitive abilities in students' final achievements. The scientific approach is very appropriate to use in Islamic religious learning. Islamic religious learning using a scientific approach trains students to understand Islamic religious education material by contextualizing it with the times. In addition, the existence of scientific learning in Islamic religious learning can also eliminate the stigma about the inability of religious teachers in developing the affective and psycho-motor potential of students because Islamic religious learning so far has prioritized cognitive abilities. Likewise, eliminating the notion that Islamic religious education is only a theory but practice in everyday life is not applied (Suradi et al., 2021).

DOI: https://doi.org/10.28918/jei.v6i2.4245

In addition to having knowledge of how to design and implement learning processes, teachers who have good pedagogical competence will create positive and enjoyable learning, such as using various learning resources and learning media. The use of varied learning media such as films will give students a sense of enthusiasm in participating in learning. Likewise, by using direct learning resources such as students being asked to go into the field to apply the concept of living in harmony and empathy for the community and giving alms to the poor. Activities like this will form students' morality better than students who are only given the lecture method. Islamic religious learning that provides opportunities for students to make observations and direct learning to the community has an impact on the formation of student character (Suradi et al., 2021).

Furthermore, the evaluation form developed by the teacher was following the basic indicators and competencies for measuring cognitive, affective, and psycho-motor. The assessment in the three domains has been carried out well by the teacher. Cognitive measurements usually teachers use quizzes, affective measurements when students carry out discussions and presentations, and psycho-motor measurements usually students carry out by rote and reading the Koran.

3. Content Knowledge

Material knowledge relates to how teachers understand and master Islamic religious materials which include concepts, facts, theories, and procedures. The results of the analysis show that the content knowledge of Islamic education teachers shows a good category with a mean score of 4.20. Table 5 is the result of a complete analysis of the content knowledge of Islamic education teachers.

Table 5. Results of Material Knowledge Analysis

No	Aspect	Average Score	Category
1	Mastering Islamic religious material well	4,20	Good
2	Connecting Islamic religious material with relevant daily phenomena	4,50	Very Good
3	Delivering Islamic religious material properly and not causing misconceptions	4,10	Good
4	Using the latest and relevant	4,00	Good

DOI: https://doi.org/10.28918/jei.v6i2.4245

references		
Total Average Score	**4,20**	**Good**

Table 5 shows that teachers can teach Islamic religious material well by connecting the material with every day phenomena. In addition, the use of the latest references will add insight for teachers and students. Good mastery of concepts will make it easier for teachers to convey Islamic religious material more easily and avoid misconceptions.

Misconceptions will confuse the students. They will not understand the correct concept and perhaps lead to an understanding of something outside Islamic rules. Therefore, the teacher's mind of the delivered material is necessary for equipping students to understand Islamic material thoroughly like creed, fiqh, interpretation, and others that need to be taught clearly and in detail. The misconception of Islamic teachings can form the understanding of Islam that does not follow the Shari'a. Such as the emergence of intolerance between religious communities and the wrong perception of jihad meaning (Osman et al., 2021). Therefore, the content knowledge possessed by Islamic education teachers is necessary to form a generation of Muslims who are intelligent and following Islamic teachings.

4. Pedagogical Content Knowledge

Content pedagogic knowledge is a pedagogic knowledge that applies to teaching specific content. This knowledge includes knowing what approaches and learning resources/teaching materials are appropriate for the teaching process on certain content as well as knowing how the content elements can be taught into better learning (Mishra & Koehler, 2008). The purpose of content pedagogic knowledge is to develop a better learning practice (Schmidt et al., 2009). The results of the analysis show that the knowledge of teachers in the field of pedagogic content is good by a mean score of 3.41.

Table 6. Results of Content Pedagogic Analysis.

No	Aspect	Average Score	Category
1	Choose approaches and learning strategies that are suitable for certain	3,50	Good

	Islamic religious materials		
2	Choose media and learning resources that are in accordance with certain Islamic religious materials	3,37	Enough
3	Make evaluations of assessments that are in accordance with certain Islamic religious materials by covering three aspects, namely cognitive, affective, and psycho-motor	3,50	Good
4	Creating independent learning tools that are adapted to certain Islamic religious materials	3,32	Enough
5	Develop the latest and relevant content into Islamic religious learning	3,40	Enough
6	Managing classes according to the characteristics of students and certain Islamic religious materials	3,40	Good
Total Average Score		**3,41**	**Good**

Table 6 shows that teachers are good at choosing approaches and learning strategies, managing classes, and making evaluations on certain Islamic religious content. The selection of the appropriate learning approaches and strategies will make Islamic religious learning more varied and enjoyable. Hence, there will be a good impact on the psychology and enthusiasm of students during learning. The selection of the right strategy contributed significantly to students' interest in studying Islam. This proves that the teacher's role is the main key in providing meaningful learning for students (Mustafa & Salim, 2012).

The findings reveal that teachers have used various methods and strategies to explain certain types of Islamic religious material. For example, using the short card method to explain the material for performing ablution, using the demonstration method to explain the material for the procedure for praying the body, and etc. Meanwhile, only 8% of teachers still use the lecture and assignment method. The existence of variations in this learning method makes students happier and motivated to learn Islamic religious materials. The results of interviews with students can be seen below.

"How do you feel when you are taught to use various types of strategies and media during Islamic religious studies?"

"I feel more happy and enthusiastic about participating in Islamic religious learning because the teacher does not only provide material and students are assigned to do

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practice questions, but the teacher provides more opportunities to be active during learning".

"Are the teachers right in choosing learning strategies and methods?"

"In my opinion, teachers are right in choosing learning methods that are in accordance with the Islamic religious material being taught. For example, using singing techniques to introduce the pillars of faith and the pillars of Islam."

Learning management by understanding the characteristics of the Islamic religious material being taught is an important aspect to create learning that is always interesting and fun every day. The selection of the right methods and strategies in conveying Islamic religious content makes it easier for students to understand the material.

5. Technological Content Knowledge

Knowledge of content technology relates to how Islamic education teachers can use various types of technology when teaching Islamic religious material or vice versa how teachers develop teaching materials through the technology used. In this case, the teacher must master Islamic religious content broadly and deeply. The existence of a broad mastery of Islamic religious material will make it easier for teachers to apply and develop the type of technology that will be used. The results of the analysis show that the teacher's knowledge of content technology shows a fairly good category with a mean score of 2.68.

Table 7. Results of Content Technology Knowledge Analysis

No	Aspect	Average Score	Category
1	Choosing the right and relevant technology in teaching certain Islamic religious materials	2,58	Enough
2	The choice of technology used can understand Islamic religious material	2,78	Enough
Total Average Score		**2,68**	**Enough**

The selection of the appropriate technology to convey the material is an important factor. The submission of material that is integrated with technology will make learning more interactive. For example, the material on how to treat corpses would be more

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effective if it is explained using video-based technology. This is because there are some content of Islamic religious material that is not easy to implement when using direct practice as has been done by one of the respondents. Based on the findings, the respondents do not use any technology variations in conveying the material. As many as 88% of respondents use PowerPoint, 8% use old books, and those who use technology such as videos, the internet, or e-books are only 4%.

These results indicate that teachers convey Islamic religious material still using PowerPoint media. On the other hand, some options of technology-based media can be optimized to explain the characteristics of Islamic religious material. For example, video, animation, film, radio, the internet, etc. The use of technology-based media in conveying Islamic religious material becomes more quickly understood and accepted by students. Moreover, students can access their Islamic religious materials that are enrichment (material development) so that they can develop students' independence in studying the material.

Technology has an important role in the spread of Islamic teachings. Technology also has the ability to serve to provide content or other content (Hosseini & Ramchahi, 2018). For example, a TV program for learning Arabic and reading the Koran. Then, for students who are not fluent in reading the Qur'an, they can still memorize it by using the recorded MP3 file. In addition, individuals with limited print Qur'an can use the Qur'an in digital form. Thus, the spread of Islamic teachings will be faster and easily accessible globally through technology.

6. Technological Pedagogical Knowledge

Knowledge of pedagogical technology is the ability in which teachers use and utilize technology in learning. Pedagogical technology knowledge is knowledge of how various technologies can be used in learning and understanding that using technology can change the teaching style of teachers (Schmidt et al., 2009). This knowledge allows understanding the suitable technology to achieve pedagogical goals. Technology can provide new methods used in the teaching process and can make it easier to apply in learning. Technology can help teachers to make learning more interesting. Learning using

DOI: https://doi.org/10.28918/jei.v6i2.4245

technology (digital learning) can make students more interested in Islamic religious learning and broaden students' horizons (Das, 2021).

Technology utilization in learning makes the learning process more effective and fun. In addition, the use of technology can improve learning, interaction with students, increase student curiosity, and make it easier for teachers to convey knowledge (Raja & Nagasubramani, 2018). The results of the observational analysis showed that the ability of teachers to develop the technology into learning was in the fairly good category with an average score of 2.80. Based on the results of an interview with one of the teachers.

> *"Is the use of technology important in learning? Why is the use of technology important?"*
>
> *"Yes, technology is very important in learning. The use of technology makes learning more interesting and can focus students on learning the material. In addition, students feel more interested and enthusiastic to take part in learning when teachers use technology-based learning media rather than using conventional methods. The use of technology also increases the interaction between teachers and students".*

Based on the observation results, some teachers have optimized the use of technology in learning. But, there are still teachers who have not used technology at all. The interview results showed that there were still teachers who had difficulties when using technology. So, they chose to continue using the conventional method, namely using old books. They also assume that using books would be suitable to explain the material. It does not need to be in pain to provide and create technology-based learning media. They do not realize that conventional methods will impact on understanding and learning motivation of the student badly. In addition, less interaction between teachers and students and even non-existent.

Table 8. Types of Technology-Based Learning Media Used

No	Type Learning of Media	Description
1	Power point	Often used for
2	Videos	Less used
3	Figure	Quite often used

Table 8 shows that PowerPoint is the most used technology by teachers in the learning process. It shows that video media is not often utilized for learning. In fact,

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students will be more focused on learning by using video. In addition, sharing other types of technology such as films, radio, the internet, and so on also can be used in learning. The existence of various technologies in Islamic religious learning will make learning more interesting and can create more interactions between teachers and students.

The use of technology plays an important role to complement the teaching processes more qualified and efficient (Rianawati, 2020). Technology can be used to support learning, build 21-st century skills, increase student engagement and motivation, and accelerate learning. In addition, using technology such as the internet can increase educational productivity. A class that utilizes technology can make a more lively atmosphere, create an inclusive learning environment, encourage collaboration and student curiosity, and allow teachers to collect data on student performance. Then, the use of effective digital learning tools can increase student engagement, help teachers improve lesson plans, and make it easier for students to access the information.

7. Technological Pedagogical Content Knowledge

Knowledge of content pedagogy technology refers to teacher knowledge about integrating technology and Islamic education materials into learning appropriately. This knowledge is to combine three pieces of knowledge, namely technology, pedagogy, and content into a unity that interacts with each other. Teachers can create effective learning through TPACK (Mishra & Koehler, 2008). The analysis results show that the teacher's knowledge of content pedagogical technology is quite good with a mean score of 2.63.

Table 9. Results of Content Pedagogy Technology Knowledge Analysis

No	Aspect	Average Score	Category
1	Choose the type of technology and learning strategies that are in accordance with Islamic religious material	2,68	Enough
2	Integrating knowledge of Islamic religious material, pedagogic knowledge, and technological knowledge possessed in realizing effective learning	2,61	Enough
3	Applying appropriate technology and learning strategies in accordance with Islamic	2,62	Enough

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religious material		
Total Average Score	**2,63**	Enough

Table 9 indicate how teachers select and apply appropriate technology and learning strategies according to Islamic religious material. The observation results show that some teachers can use technology in explaining Islamic material in the learning. For example, the use of learning videos in explaining procedures for treating corpses through a scientific approach. Students are asked to watch a video about procedures for treating corpses, then the teacher invites students to ask questions using brainstorming techniques. Then, students are asked to practice and analyze procedures for caring for corpses. The last stage is to present the results of the practice. Another example is the matter of giving charity. The teacher uses PowerPoint media by giving pictures about people who give charity. The role method is most used by teachers to describe how to give good alms. Following is a snippet of the results of interviews with students.

> *"Are teachers able to use technology and good learning strategies in teaching Islamic religious material?"*
>
> *"Teachers are quite good at using technology in learning such as using PowerPoint to explain the material, but it is necessary to have a variety of technology-based learning media in other materials so that students are always interested in participating in learning. Currently, teachers use PowerPoint too often in conveying Islamic religious material even though with different materials. But, there are times when students feel bored with the technology that is always the same. The use of technology media is also accompanied by the application of innovative learning strategies. Some teachers have used quite varied learning strategies such as demonstrations, role-playing, discussions, and so on. Although there are still teachers who use the lecture method by only reading old books".*

In order to achieve the teachers familiar with the procedures for operating various types of technology and various types of learning strategies, learning using the suitable technology and strategies must be implemented continuously. Learning using technology needs to be done continuously to create and build a dynamic balance between all components of TPACK (Mishra & Koehler, 2008). The teachers not only be aware of technology, pedagogy, and content knowledge but also must be able to apply them efficiently in integrating these three aspects in the teaching and learning process (Thappa & Baliya, 2021). The ability of teachers to assimilate technology into learning methods is very important to create the integrity of these three aspects. The level of technology

literacy of teachers depends on improving performance within the TPACK framework (Bingimlas, 2018).

CONCLUSION

The results of the study prove that the knowledge of Islamic education teachers on TPACK is quite good. However, there is a need for improvement in integrating technology effectively and applying various types of appropriate technology into Islamic learning. Some of the solutions that can be offered are by providing adequate facilities in implementing TPACK, understanding and training on TPACK, and continuous TPACK practices. These results can be used as recommendations for Islamic education teachers in improving their professionalism and accomplish educational challenges in the future.

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DOI: https://doi.org/10.28918/jei.v6i2.4245