*Article*

# Exploring The Impact of Digital Technology Transformation in Islamic Education: The Islamic Education Teachers Perspective

Nor Alniza Azman[*], Mohd Isa Hamzah & Khadijah Abd Razak

Pusat Kajian Kepelbagaian Pendidikan, Fakulti Pendidikan, Universiti Kebangsaan Malaysia,
43600 Bangi, Selangor, Malaysia

*Corresponding Author: alnizaazman712@gmail.com

**Abstract:** The empowerment of digital education is one of the government's reforms to ensuring that Malaysia's education system remains relevant. However, some teachers still do not recognise the significance of adopting digital technology, resulting in the rejection of a few Islamic education teachers. Thus, the purpose of this study is to investigate how Islamic education teachers perceive the impact of digital technology use in the classroom. Using a case study design and a qualitative research approach, the study included five Islamic education teachers who are proficient in digital technology and were chosen by a snowball sampling process. Interviews, in-person observations, and audio-visual analysis were used to gather data. Using NVIVO 14 software, the data was subjected to a thematic analysis. Credibility, transferability, and dependability are ensured for qualitative research data by triangulation, member check and peer review, rich and thick audit trail, and inter-rater. The study's aims, which include improved productivity in the classroom; problem-solving efficacy; quick access to information; and more systematic data management, are addressed via four main themes and eight sub-themes. It is intended that this study will offer a viewpoint that encourages Islamic education teachers to make the most of digital technology in the classroom and in day-to-day operations.

**Keywords**: Digital technology transformation; Islamic education; Islamic education teacher; Elementary teacher; qualitative approach

## Introduction

The rapid advancement of digital technology in education has created a forum for scholarly discourse on the viability and applicability of the educational system as a whole, including Islamic education. In light of the needs of 21st century learning skills, which necessitate constant transformation, the influence of a re-evaluation pertaining to the deployment of technology in teacher teaching should be given fresh life (Eickelmann & Gerick, 2020). Islamic education teachers should constantly advance their knowledge and abilities in accordance with the demands of jihad in their pursuit of knowledge. They should also utilise the idea of wisdom to apply these abilities to the use of digital technology for the benefit of other people, particularly pupils (Ibrahim & Subari, 2021).

Due to the common mindset of teachers, there are still a few teachers who are unaware of the possibilities of digital education (Valentyna I. Bobyts'ka & Svitlana M. Prots'ka, 2018). This can be proven by previous

studies that found teachers lacked confidence (Chien & Nor, 2020), were unsure because they were worried about the negative influence of technology on students (Caena & Redeker, 2019), were uncomfortable and were not interested in changing traditional teaching methods to technology as well as afraid to make changes because they think technology will take over the teacher's role (Kebritchi et.al, 2017), are not sensitive to the development of digital technology (Jazzlizan, 2020), are not enthusiastic about using digital technology (Jazzlizan, 2020) and consider digital technology as a burden (Bashah & Zulkifli, 2022; Omar & Ismail, 2020) so teachers refuse to integrate digital technology in teaching. Therefore, the problem of teachers' attitude and thinking has an impact on the use of digital technology in their daily affairs.

Owing to the issues raised, there is a research gap from a practical perspective, which is the opinion of teachers who are still catching up on the value of digital technology in the classroom. It is inevitable a few teachers reject the use of digital technology in the classroom and other aspects of their daily work. Even if there is a methodological vacuum, there is still a dearth of comprehensive study on how Islamic education teachers see the usage of digital technology. Therefore, the aim of this study is to investigate, from the viewpoint of the Islamic education teachers themselves, the qualitative impact of digital technology uses on Islamic education. It is anticipated that this study would offer a viewpoint that inspires teachers in Islamic education, in particular, to constantly have a positive attitude towards integrating digital technology into their duties and teaching.

## Literature Review

The shift in pedagogy from conventional to digital approaches reveals a significant progress in Islamic education. Other names for this type of digital instruction include computer-assisted instruction, interactive learning, remote learning, blended learning, online instruction, online teaching, and autonomous learning (Rahman et al., 2020). Digital teaching may be made successful by using apps like Google Classroom, Google Meet, Zoom, Microsoft Teams, WEBEX, and others that allow teachers and students to interact and access resources (Suhaimi & Baharudin, 2021). Previous research has also addressed digital education from the e-learning and m-learning viewpoints. According to (Hashim et al., 2020), e-learning refers to the electronic transfer of knowledge and encompasses learning management systems, virtual learning systems, and content management systems that comprise infrastructure and lesson material. While m-learning promotes autonomous learning by enabling students to access course materials via mobile devices in accordance with time and location flexibility (Brown, 2005; Keegan, 2005), (Kasim & Husain, 2018).

Therefore, in order to empower digital teaching, a policy related to digital education has been enacted. The enactment of the Digital Education Policy, which was introduced in 2023, has reinforced the shift of the country's educational system towards digitization. The nation's commitment to developing teachers who are proficient in digital technology and students who are fluent in it is demonstrated by this policy (Ministry of Education Malaysia, 2023). As a result, Islamic education teachers must take the initiative to better prepare themselves to be dynamic, excellent educators who can handle the current shift (Abdullah, 2022). This demand is in line with the emergence of a digital society, which necessitates that teachers fulfil certain requirements. These include the ability to compete in the modern educational environment, the capacity to create efficient computer-based teaching mechanisms, and the capacity to foster students' future potential (Noor et al., 2021).

Islamic education teachers should be encouraged to become proficient in digital technology because of the advantages it will provide. Previous research on Islamic education teachers regarding the advantages of applying digital technology has been carried out. Among them are teaching and learning process is made easier and more effective by the use of technology (Noh. et al., 2014); it also gives new life to teaching strategies that are more engaging for students (Lubis et al., 2018); teachers can improve student access to information by using the internet, where all information is readily available (Muhammad, 2018); and they can use digital technology to teach students good values (Noor et al., 2021). Thus, in order to become more professional educators, Islamic education teachers had to seize the chance to sharpen their digital abilities.

**Methodology**

1. Research Design
The present research employs a qualitative methodology utilising a case study design. The study group is made up of Islamic education teachers from primary schools (unit of analysis) with a focus on digital technology (case delineation) (Stake, 1995). In order to provide the research findings a more realistic picture of the phenomenon, the case studies chosen to align with the goal of exploring phenomena related to the impact of digital technology transformation in Islamic education in a natural way (Lincon & Guba, 1985) based on the actual experience of Islamic education teachers. (Patton 2001; Yin, 1994).

2. Sample
Five Islamic education teachers from three states were among the research participants. They were chosen using a snowball sampling approach based on factors including receiving a digital award and actively participating in national digital activities. Fortunately, the Information Technology Resource Division Officer—who oversees the Primary School Islamic Education Teacher program—provided name recommendations, which were used to choose the research participants. The specifics of the research participants participated in this investigation are as follows:

Table 1. The specifics of the research participants

| Research participants | Name | State | Tenure |
|---|---|---|---|
| Research Participant 1 | Ustaz Husni | Johor | 15 |
| Research Participant 2 | Ustazah Irdina | Johor | 15 |
| Research Participant 3 | Ustaz Rushdi | Johor | 12 |
| Research Participant 4 | Ustaz Khushairi | Negeri Sembilan | 4 |
| Research Participant 5 | Ustaz Muzamil | Selangor | 10 |

3. Data Collection
Interview techniques, observation, documentation, and audio-visual analysis are all used in the gathering of research data (Creswell, 2007). In order to collect data in an organised and thorough manner, the researcher serves as the primary instrument, utilising an observation inventory and a semi-structured interview methodology as guidelines (Yin, 1994). The procedure of gathering data was carried out following approval from the school administrator and the Educational Policy Planning and Research Division (EPRD). The research participants' involvement is entirely voluntary and is verified in writing. A cell phone was used to gather observational data, and an audio recorder was used to record interview data.

4. Data Analysis
Following transcription in NVIVO 14 software, the interview data was then subjected to a thematic analysis using Miles, Huberman, & Saldana's (2020) analytical approach. This method consists of two levels of analysis: the first round and the second round. To make sure that the data was examined thoroughly, the researcher performed open coding, coding revisions, and definition codes in the first round of analysis. After finishing, the researcher proceeds to the next phase, which entails creating pattern codes and clustering. At this point, the themes for the research findings have been developed. Following the completion of both phases, the researcher used cognitive mapping to make the themes easier for the researcher to grasp (Miles, Hubberman, & Saldana, 2020). So, there are four main themes that answer the objectives of the study, as shown in figure 1.

5. Trustworthiness
To enhance their credibility, qualitative research findings derived from the analytical process must pass a trustworthiness test (Lincon & Guba, 1985). In order to avoid duplication of effort, the researcher triangulated data from many sources (Merriam, 1994), multiple study participants, a member check procedure from study participants, and an expert peer review process (Creswell, 2007). The researcher has provided a thorough and in-depth description of the data to guarantee data transferability. Lastly, to guarantee the reliability of the study results, audit trails and inter-raters were used in this investigation.

**The Findings**
In exploring the impact of digital transformation in Islamic education according to the perspective of Islamic education teachers, this study identified four themes and eight sub-themes that were formed. The details of the findings are illustrated below:
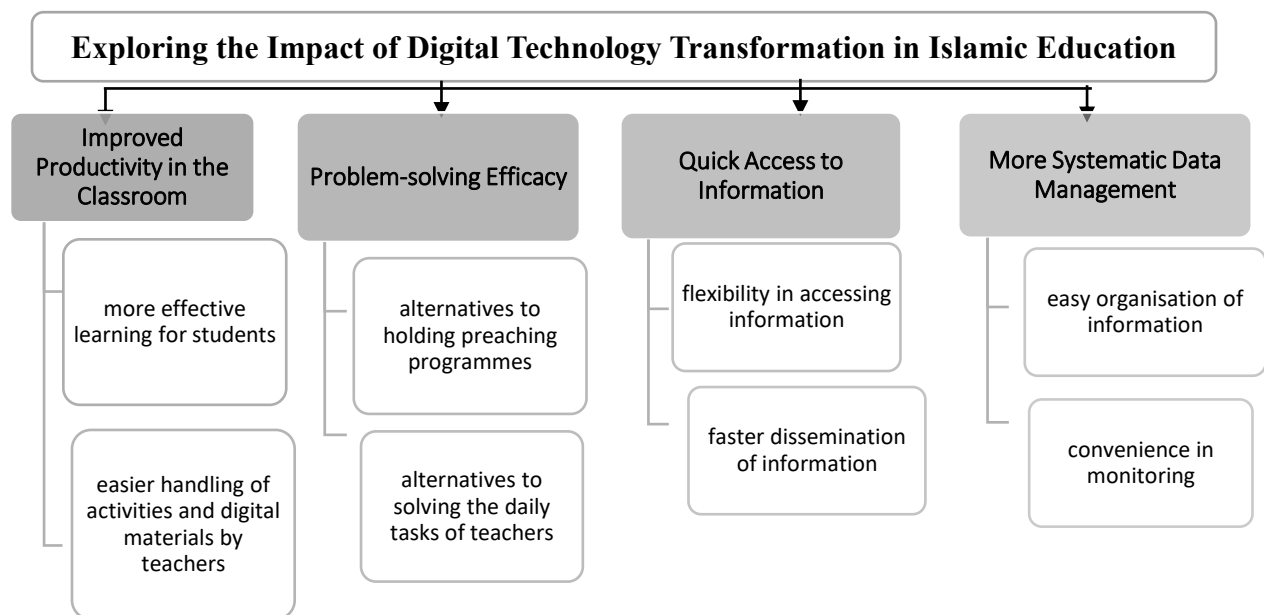


Figure 1. Concept Mapping of the Result

Four themes have been developed to address the study's objectives based on the depiction of the research findings: i) improved productivity in the classroom; ii) problem-solving efficacy; iii) quick access to information; and iv) more systematic data management. These main themes are accompanied by eight sub-themes: i) more effective learning for students; ii) easier handling of activities and digital materials by teachers; iii) alternatives to holding preaching programmes; iv) alternatives to solving the daily tasks of teachers; v) flexibility in accessing information; vi) faster dissemination of information; vii) easy organisation of information; and viii) convenience in monitoring.

1. Improved Productivity in the Classroom
Participants in the study concurred that the impact of digital technology revolution in Islamic education can boost the productivity of teachers. They contend that the use of digital technology improves student learning and makes it easier for teachers to manage digital resources and activities.

*More Effective Learning for Students*

According to participant 1, one-way students actively learn in the classroom is to observe the impact of digital technology:

> *"...one of the advantages of him using technology is that he can help stimulate activities in the class."*
>
> (Ustaz Husni, Male, 34 years old)

In fact, participant 4 lends credence to this claim, saying that students are more willing to utilise digital technology and respond favourably to the teacher's use of technology in the classroom:

> *"Students are more focused if they use technology. They show more interest and interaction towards digital."*
>
> (Ustaz Khushairi, Male, 27 years old)

The participant 5 also shared this opinion, saying that using technology in the classroom can help students learn concepts more easily:

> *"That's why, with the help of technology, that understanding is easily given to our students."*
>
> (Ustaz Muzamil, Male, 31 years old)

Furthermore, he stated that considering digital technology engages students in both visual and kinaesthetic learning activities, it makes it easier for them to grasp what their teachers are teaching:

> *"Actually, in a teaching session, the highest percentage of students receiving knowledge is when the teacher stimulates them with visuals and actions. The highest is action, actually. It means that when they learn that, they continue to do it. And the second is visual."*
>
> (Ustaz Muzamil, Male, 31 years old)

The observation session on participant 3 has reinforced the theme that he has used digital game activities using Minecraft to encourage student involvement in class, which is in line with the opinions of nearly all participants who stated that digital technology can stimulate active involvement of students. These field notes demonstrate student's active participation.

> *"The class atmosphere is quite noisy, with the voices of students cheering. They look excited to start the task given by the teacher in the Minecraft application. After getting the green light, the students rallied and focused on completing the task, and they discussed it with each other. One student controls the mouse on the laptop, another looks for the answer in the textbook, and another types the answer on the keyboard."*
>
> (Ustaz Rushdi, Male, 33 years old)

*Easier Handling of Activities and Digital Materials by Teachers*

Teaching tasks, including digital resources, are made easier for participants because of the impact of their usage of technology in the classroom. This aligns with the experience of participant 1, who optimised his teaching skills through the use of iPads:

> *"If you understand, I always use the iPad, and I will enlarge the pdf. I will only focus on the meaning of the words. So students will see that we focus on understanding only."*
>
> (Ustaz Husni, Male, 34 years old)

Participant 3 employed video screenings as a teaching tool to demonstrate how to perform a prayer if one is ill. The following quote serves as an illustration:

*"For example, for an amputee, how does he pray on the bed? So it is shown how to pray in bed with a video."*

(Ustaz Rushdi, Male, 33 years old)

For participants 2 and 5, on the contrary, things are different since they utilise the Telegram app to assist in organising their classroom activities.

*"Students send their ablution videos; they already know because I always tell them to send them by telegram."*

(Ustazah Irdina, Female, 34 years old)

*"So I will plan the lesson and write it in a note. Or I will save it in my personal Telegram application. Then, when we want to implement that idea or plan, we refer to it."*

(Ustaz Muzamil, Male, 31 years old)

2. Problem-solving Efficacy

Everyone who took part in the study agreed that using digital technology may benefit in problem-solving. Digital technology is one among them; it's employed as an alternative to preaching programmes to carry out everyday chores.

*Alternatives to Holding Preaching Programmes*

This culture continues to thrive in schools as a result of alternative preaching activities such as reciting Yassin online during the COVID-19 MCO. Participant 2 describes how he used his school's digital technology resources to organise a Yassin programme:

*"The need for ICT in Islamic education is necessary to facilitate the implementation of the programme. In Yassin recitation, for example, if there are too many involved, then we can use an ICT application where students sit in class but are still equally involved."*

(Ustazah Irdina, Female, 37 years old)

In fact, she detailed the use of digital technology in holding the programme:

*"Students who are in class can use Smart TV, and through Google Meet, they can see what's happening in the hall."*

(Ustazah Irdina, Female, 37 years old)

In addition, participant 4 also experienced organising competitions by the Islamic Education Committee programme using digital technology.

*"In Islamic education, we have many programmes: Isra' Mikraj, Maulidur Rasul, 27 Rajab. So, there are a lot of programmes and competitions that can be held. So, students can get involved."*

(Ustaz Khushairi, Male, 27 years old)

As he shared, the use of green screens can help students feel the real situation when participating in the competition.

*"You can use green screens, for example, in hafazan competitions or khutbah. We can find a suitable background."*

(Ustaz Khushairi, Male, 27 years old)

The audio-visual analysis from one of the preaching programmes conducted online via the YouTube platform by participant 1, *Kem Bestari Solat*, strengthens the data triangulation for this subject. This is the video's front view.
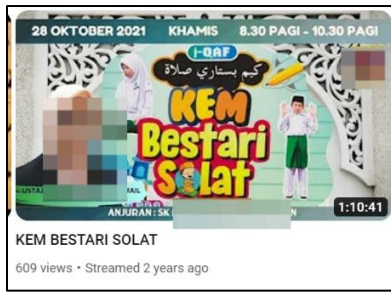
Figure 2. Display of 'Kem Bestari Solat'
Source: Ustaz Husni's YouTube Channel

*Alternatives to Solving the Daily Tasks of Teachers*
Participants 1, 3, and 5 have the same view regarding the impact of digital technology in Islamic education, which is to facilitate the daily tasks of teachers.

*"Simplifying everyday affairs". (P1)*

(Ustaz Husni, Male, 34 years old)

*"For me, technology is very helpful, it makes the teacher's work easier."*

(Ustaz Rushdi, Male, 33 years old)

*"So, for me, the use of technology in my daily life as a teacher is very easy."*

(Ustaz Muzamil, Male, 31 years old)

The use of digital technology can ease the burden of participants in the teaching process of Islamic education, as shared by study participant 3. He uses technology as an alternative to solve problems in his mastery of Arabic.

*"...it solved our issue. I'm not good at teaching Arabic, and I'm afraid my pronunciation is wrong. So I use audio of other people's voices and songs. Or make your own video."*

(Ustaz Rushdi, Male, 33 years old)

Among the applications used to help him solve the problem of teaching Arabic is the Minecraft application.

*"In Minecraft, we can read directly, whether in English, Arabic, and so on. We can copy and paste it there and press it; later, Minecraft will read it for us. It's easier."*

(Ustaz Rushdi, Male, 33 years old)

In addition, with the help of digital technology, participant 4 can easily finish the Islamic education syllabus:

*"The advantage is that we can finish the teaching and learning process on time. If it's online, we can finish the syllabus according to our pace."*

(Ustaz Khushairi, Male, 27 years old)

He added that it is easier for teachers to plan appropriate learning activities and control students at the same time:

*"So when I use the latest technological teaching aids, the reason is that it makes teaching easier and the students are more controlled using technology."*

(Ustaz Khushairi, Male, 27 years old)

3. Quick Access to Information

The rapid accessibility of knowledge is one of the impacts of digital technology on Islamic education, according to this study. The ease of digital technology allows research participants to disseminate knowledge more quickly and with greater flexibility.

*Flexibility in Accessing Information*

Participant 1 presented his views clearly about the impact of technology use, such as the quote:

*"Digital technology helps teachers facilitate the search for information...."*

(Ustaz Husni, Male, 34 years old)

This view is supported by participant 4, who also details how to access information virtually using any device and at any time:

*"Yes, it's true. Technology makes it easy, and we can access it everywhere. Because the thing is in the 'cloud', if we don't bring a laptop, we can access it on the phone. If we leave a laptop somewhere, we can ask for help borrowing someone else's laptop. Because that thing is in the 'cloud', and we can sign-in to access our files."*

(Ustaz Khushairi, Male, 27 years old)

In fact, participant 4 also told the researcher that creating a school dashboard can facilitate peers' easy access to information:

*"These folders are from Google Drive, and we embed them into the dashboard for teachers to easily access. When we issue instructions to enter something, teachers know they need to access this portal and go into this folder to get information. So, he makes it easy."*

(Ustaz Khushairi, Male, 27 years old)

*Faster Dissemination of Information*

One benefit of digital technology, according to participant 1, is that knowledge may be disseminated easily:

*"For example, the MTQ briefing. I just wanted to let you know that your job is to prepare videos at the district level only. As far as sending through the telegram, it's ok."*

(Ustaz Husni, Male, 34 years old)

According to participant 2, utilising the Telegram application to disseminate information can also be done effectively. In order to facilitate colleagues' access to information when needed, he took the initiative to compile committee documents, such as papers and reports, as he shared:

*"I collected sample materials related to the committee, like paperwork. The executive committee in the Telegram group is easy. So, I took the initiative to collect and create a group where there are only working papers and programme reports. So, when the teacher is ready, just blast in the group."*

(Ustazah Irdina, Female, 37 years old)

In addition, participant 3 has the same view that the use of technology can spread learning content quickly:

*"I use it a lot for Islamic education, just to deliver the content so that it can be transferred more quickly."*

(Ustaz Rushdi, Male, 33 years old)

## 4. More Systematic Data Management
Participants in the study concur that using digital technology contributes to better organised data management. They may simply arrange information there, which will be helpful to them during the monitoring session by the administrators.

### *Easy Organisation of Information*
In this sub-theme, participant 3 utilises digital technology as an effective data management tool:

> *"I see technology as a tool to manage my data."*
>
> (Ustaz Rushdi, Male, 33 years old)

He also detailed how to manage data, especially in carrying out his work as a Senior Assistant of Student Affairs at the school:

> *"For example, when we manage our data, it can show that the things we do increase student attendance at school. Started with 89% attendance, now 95%. So, the program I run can be categorized as successful. I will explain it to others using the data. The data is created using technology."*
>
> (Ustaz Rushdi, Male, 33 years old)

A different scenario was shared by participant 4 in organising data using digital technology. He had successfully set up a filing system using a hybrid method:

> *"For example, the filing—we are digital, right? Only now have we hybridised it. I have keyed it in the 'cloud' and in the file. Any report will be generated in Microsoft Word, so just put it on the drive and print it out."*
>
> (Ustaz Khushairi, Male, 27 years old)

### *Convenience in Monitoring*
Organising information in a systematic and simple manner has an effect during the occurrence of the administrators' monitoring session. This scenario was shared by participant 1, who recorded the student's Quran recitation level online:

> *"One easy way to monitor is by using Online Tasmik Records. This means that it is easier for the department and PPD to know the status of how many students have finished. How much more is needed to reach the director's KPI target."*
>
> (Ustaz Husni, Male, 34 years old)

However, participant 3 recounts a different experience where digital data management can help him monitor his own work in the field of administration as well as the development of teachers at school:

> *"But I do have my own timeframe for managing HEM operations. That means I will show how many KPIs there are with the stakes involved, so that they are aware of where they need to improve, and so on."*
>
> (Ustaz Rushdi, Male, 33 years old)

## Discussion
According to the viewpoint of Islamic education teachers, the study discovered four themes about the impact of digital technology change on Islamic education: i) improved productivity in the classroom; ii) problem-solving efficacy; iii) quick access to information; and iv) more systematic data management. The shift in digital technology is clearly supported by participants, particularly in the context of Islamic education. Overall, the

themes developed have a favourable effect that is consistent with research by Halim et al. (2022) and Nordin & Bacotang (2021). The two research' contexts are slightly different, though, since the study by Abdul Halim et al. (2022) was quantitative in nature, while the study by Nordin & Bacotang (2021) focused on pre-school teachers.

Nonetheless, there are other studies that refute the study's conclusions, which state that using digital technology negatively affects people. Among these are the fact that Islamic education teachers' workloads grow as a result of the addition of digital technology-based assignments and that they have difficulties imparting moral principles to students who are more exposed to the availability of material on the internet (Bashah & Zulkifli, 2021). Furthermore, Rashed. et al.'s study from (2022) discovered that one of the biggest problems faced by Islamic education teachers is the transhumanist dilemma. It is believed that digital technology will entirely replace human labour in jobs. Even so, Islamic education teachers must play a crucial role in moulding individuals with admirable moral character.

When considering the survey as a whole, it becomes clear that the participants have provided a more thorough viewpoint, suggesting that they have a preconceived notion and an advanced vision for the future of digital technology. Their opinions on the benefits of digital use for their profession, such as how it might boost teaching productivity, provide as evidence of this mindset. This is also supported by (Halim et al., 2022) findings, which indicated that teachers may deliver lessons more successfully by using digital technology to produce higher-quality teaching materials.

In a similar vein, this study's findings indicate that teachers could manage data more methodically when they use digital technology. This result is consistent with that of (Nordin & Bacotang, 2021), who also found that digital technology supports teachers in their documentation efforts at the pre-school stage. The complexity of digital technology may expedite work and assist teachers in completing file organisation tasks in a methodical and orderly manner. Teachers can save time and carry out multiple tasks at once in regard to it.

In connection with that, the benefits of utilizing digital technology resonate with the concept of leveraging technology for multitasking and efficient task completion, as advocated by Stephen (2007). Specifically, incorporating digital tools in classroom activities enables teachers to streamline administrative tasks, such as data management and lesson planning, while simultaneously engaging students in interactive and dynamic learning experiences. The results of this study support the idea that integrating digital technology into daily classroom practices can yield positive outcomes for teachers, including increased productivity, enhanced instructional effectiveness, and greater student engagement. Despite the presence of potential adverse effects, such as technological distractions or information overload, the focus of this study's discussion remains primarily on the favourable aspects, emphasizing the transformative potential of digital technology in education.

**Conclusion**
In conclusion, the teaching profession both within and outside of the classroom is positively impacted by the adoption of digital technology in education. This study establishes that Islamic education teachers have effectively addressed the government's need to modernise digital education to raise the calibre of teaching personnel. It is thus anticipated that other educators would likewise commit to making the most of digital technology in order to ease their everyday responsibilities. This is due to the fact that the government's attempts to ensure the sustainability of Islamic education in order to maintain its competitiveness with other disciplines can benefit from the application of digital technology.

To further enhance our understanding of the benefits of combining technology and Islamic education, it is hoped that future research would be able to examine more of the proficiency of Islamic education teachers at the preschool and high school levels. It is also necessary to conduct survey research on the opinions of Islamic education teachers about the efficacy of using digital technology into the classroom. This is due to the fact that teachers should be prioritised as implementers as there are several tiers of competency among Islamic education instructors, including beginning, intermediate, and advanced users. The study's findings also revealed that educational technology may help teachers become more effective in all facets of teaching and learning while also

making daily tasks at school easier. Digital technology may promote lifelong learning even with its limitations since it allows educators to acquire new techniques in Islamic education pedagogy.

*Informed Consent Statement:* Informed consent was obtained from all subjects involved in the study.

*Conflicts of Interest:* The authors declare no conflict of interest.

## References

Abdullah, W. W. A. A. (2022). Guru inovatif Pendidikan Islam dalam inovasi pengajaran. [Unpublished Doctoral Thesis]. Fakulti Pendidikan, Universiti Kebangsaan Malaysia.

Bashah, M. A., & Zulkifli, H. (2022). Issues and challenges of Islamic education teachers in the implementation of digital learning. *International Journal of Advanced Research in Islamic Studies and Education, 2*(1), 43-55. http://dx.doi.org/10.6007/IJARPED/v11-i2/14336

Brown, T. H. (2005). Towards a model for m-learning in Africa. *International Journal on E-learning*, *4*(3), 299-315.

Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European digital competence framework for educators (Digcompedu). *European Journal of Education*, *54*(3), 356–369. https://doi.org/10.1111/ejed.12345.

Chien, C. K. P., & Nor, M. Y. M. (2020). Tahap kesediaan dan keperluan latihan guru dan hubungannya dengan kemampuan melaksanakan pengajaran dan pembelajaran Abad ke-21. *Jurnal Dunia Pendidikan*, *2*(4), 142-152.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications.

Eickelmann, B., & Gerick, J. (2020). Learning with digital media: Objectives in times of corona and under special consideration of social inequities. *Die Deutsche Schule 16*(1), 153–162. https://doi:10.1111/ejed.12345

Halim, A. F., Muda, W. W. H. N., Yusof, S., Bahruddin, B., Kamaludin, N. N. A, Ashaari, A., & Zaki, M. N. M. (2022). Impak penggunaan teknologi dalam pengajaran dan pembelajaran terhadap guru sewaktu pos-pandemik: Kajian kes. *ResearchGate*. https://www.researchgate.net/publication/366575689_IMPAK_PENGGUNAAN_TEKN OLOGI_DALAM_PENGAJARAN_DAN_PEMBELAJARAN_TERHADAP_GURU_SEWAKTU_PO S-PANDEMIK_KAJIAN_KES

Hashim, F., Rosli, F.F., & Elias, F. (2020). Pengajaran dan pembelajaran dalam talian dan impaknya terhadap guru novis Pendidikan Islam. *BITARA International Journal of Civilizational Studies and Human Sciences, 3*(4), 151-162.

Ibrahim, R., & Subari, A. M. (2021). Perspektif hikmah pendidikan atas talian ketika wabak Covid-19. *Journal of Quran Sunnah Education and Special Needs (JQSS)*, *5*, 45-63. https://doi.org: 10.33102/Jqss.Vol5no1.96.

Kasim, T. S. A. T., & Husain, F. C. (2008). Pendekatan individu dalam pengajaran Pendidikan Islam sebagai wahana melahirkan modal insan bertamadun. *Jurnal Usuluddin*, *27*, 141-156.

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems*, *46*(1), 4-29.

Keegan, D. (2005). The incorporation of mobile learning into mainstream education and training. In *World Conference on Mobile Learning, Cape Town* (Vol. 11, pp. 1-17).

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Lubis. M. A., Rahman, A.R.M, Lubis. I., & Kamis, M.S. (2018). A review of teaching islamic education in a new digital age. *ASEAN Comparative Education Research Journal on Islam and Civilization (ACER-J) 2*(2), 92-100.

Merriam, S. B. (2009). *Qualitative research a guide to design and implementation.* Jossey-Bass.

Miles, M.B., Huberman, A.M., & Saldana. J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). Sage

Ministry of Education Malaysia. (2023). *Dasar pendidikan digital. BSTP.* Dewan Bahasa & Pustaka.

Muhammad. B, J. (2018). Effects and challenges of using instructional and multimedia materials in teaching islamic studies in nigerian schools: An analysis. *I-Manager's Journal on School Educational Technology, 13*(3), 9-18. https://doi.org:10.26634/jsch.13.3.13951.

Nawi, M. M. A., Jamsari, E.A., Hamzah, M.I., Sulaiman, A., & Umar, A. (2012). The impact of globalization on current Islamic Education. *Australian Journal of Basic and Applied Sciences*, *6*(8), 74-78.

Noh, M. A. C., Othman, M. F., & Lubis, M. A. (2014). Pengajaran Berkesan Berasaskan Kaedah Kontekstual Dalam Pendidikan Islam. *Prosiding. Wacana Pendidikan Islam Peringkat Kebangsan Siri Ke-10 (WPI10)*.

Noor. M. N.E., Aini, T.S., & Yusmini. (2021). Peranan guru dalam pelaksanaan e-pembelajaran Pendidikan Islam menurut perspektif Al-Ghazali. *Journal of Islamic Educational Research,* 52-63.

Nordin, N., & Bacotang, J. (2021). Isu dan trend penggunaan teknologi maklumat dan komunikasi dalam pendidikan awal kanak-kanak. *Jurnal Pendidikan Awal Kanak-kanak Kebangsaan, 10*(1), 99-107.

Omar, M. N., & Ismail, S. N. (2020). Mobile technology integration in the 2020s: The impact of technology leadership in the Malaysian context. *Universal Journal of Educational Research*, *8*(5), 1874-1883.

Patton, M. Q. (2001). *Qualitative research and evaluation methods* (3rd ed.). Sage.

Rahman, N. S. A., Zolkifli, Z. F. M., & Ling, Y. L. (2020). Kepentingan kemudahan teknologi dan motivasi membentuk kesedaran pelajar dalam pembelajaran digital. In *National Research Innovation Conference,* Kuching, Sarawak, Oktober.

Rashed, Z. N., & Hanipah, N. R. B. M. (2022). Challenges and best practices of teaching and learning among Islamic education teachers during the COVID-19 pandemic in Malaysia. *International journal of pedagogy and teacher education*, *5*(2), 105-112. http://dx.doi.org/10.20961/ijpte.v5i2.57195

Stake, R. E. (1995). *The art of case study research*. Sage

Stephens, K. K. (2007). The successive use of information and communication technologies at work. *Communication theory*, *17*(4), 486-507. https://doi.org/10.1111/j.1468-2885.2007. 00308.x.

Suhaimi. M. M.A., & Baharudin. H. (2021). Tahap kemahiran dan penggunaan guru-guru Pendidikan Islam dalam pembelajaran maya google classroom sepanjang pandemik covid-19. *International Conference on Business Studies and Education* (pp. 83-90).

Valentyna I. B. & Svitlana M. P. (2018). Formation of professional competencies of the future teachers by means of a computer-based methodology: Investigational approach. *Information Technologies and Learning Tools*:121-133. https://doi.org/10.26803/ijlter.19.5.3.

Yin Robert, K. (1994). Discovering the future of the case study method in evaluation research. *Evaluation Practice*, *15*, 283–290.