Teachers' Digital Literacy Ability to Improve Islamic Religion Education Learning in Islamic Boarding School

By Hamlan Andi Baso Malla, Hamka, Anies Haryani, Ardillah Abu, and Askar Nur

Original Article

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Hamlan Andi Baso Malla[1], Hamka[1],
Anies Haryani[1], Ardillah Abu[1],
and Askar Nur[2] iD

Abstract

This study aims to explain the ability of teachers' digital literacy in the discipline of Islamic Religious Education at MTs *Nahdlatul Khairaat* Islamic Boarding School, Labuan, Donggala Regency. The type of research used is qualitative research using data collection techniques. The data analysis process in this study uses NVivo software. The results of this study indicate that the digital literacy skills of teachers in the discipline of Islamic Religious Education at MTs *Nahdlatul Khairaat* Labuan Islamic Boarding School have been going quite well, especially in terms of teachers' understanding in using LCD projectors, utilization of information technology, and PowerPoint.

Keywords

digital literacy, teacher abilities, Islamic Religious Education, technology-based learning, digital era

Introduction

The development of technology today has a major influence on aspects of human life. On the one hand, technology is able to facilitate all activities carried out by humans,

[1]Universitas Islam Negeri Datokarama, Palu, Indonesia
[2]Department of Anthropology, Hasanuddin University, Makassar, Indonesia

Corresponding Author:
Hamlan Andi Baso Malla, Datokarama State Islamic University, Jl. Diponegoro No.23, Lere, Kec. Palu Bar., Kota Palu, Sulawesi Tengah 94221, Indonesia.
Email: hamlan@uindatokarama.ac.id

especially those related to work and daily activities (Muassomah & Abdullah, 2021). Meanwhile, on the other hand, technology can also present disruption of activities, in this case the aspects of social interaction between humans directly (Huang et al., 2019; Pabbajah et al., 2020).

Apart from these pros and cons aspects, the presence of technology in the scope of education is a form of development innovation and has a positive impact on improving the quality of an educational institution including modernizing educational governance and improving the quality of resources in facing the challenges of the times (Bond & Bedenlier, 2019). The integration between education and technology, also known as educational technology, is all technological devices in the form of systems or applications that are used to support the process of managing education and are oriented toward quality improvement (Rayuwati, 2020).

In the process of integrating education with the world of technology, the ability of each individual to understand and operate all technological devices for the benefit of managing education is a must (Granić & Marangunić, 2019; Tondeur et al., 2019). This is often known as digital literacy skills. In the context of this study, digital literacy is interpreted as the ability of individuals or in this case teachers to integrate technological concepts with learning processes in the field of Islamic Religious Education (Jobirovich, 2021).

This research focuses on exploring the digital literacy abilities of teachers at the *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, Indonesia, in supporting the learning of Islamic Religious Education. The formulation of the problem in this study includes an analysis of the digital literacy abilities of teachers in Islamic Religious Education learning in Islamic Boarding School and the efforts made by both the Islamic Boarding School and teachers in increasing digital literacy in learning.

Conceptual or Theoretical Framework

Generally, the concept of digital literacy is interpreted as the ability and expertise of an individual in utilizing computers, the internet, and other digital tools as a means of supporting communication activities optimally (Elmurzaevich & Rustamovich, 2019). Furthermore, digital literacy is a combination of several forms of literacy, namely, computer, information, technology, visual, media, and communication (Sutrisna, 2020). Meanwhile, digital literacy skills in this study are defined as teachers' knowledge and skills in using digital media, communication tools, or networks in finding, evaluating, using, creating information, and utilizing it in a healthy, wise, smart, careful, precise, and obedient manner law in order to support the learning process.

In education, the presence of teachers as teaching staff and learning facilitators occupies a high position. According to the Big Indonesian Dictionary, a teacher is defined as a person whose work (livelihood, profession) teaches professionally and has the main task of educating, guiding, directing, training, assessing, and evaluating students in early childhood through formal education, basic education, and medium

education (Dinata, 2021). Therefore, the role of the teacher in improving the quality of students in an educational institution is considered very important so that teachers are required to have special abilities, especially in terms of managing learning (Febliza & Okatariani, 2020).

In the development of information and communication technology, the demand for education to adapt to developments is a major projection, especially in Indonesia. Teachers and managers of educational institutions have a big responsibility in improving their education based on the context of the times (Buckingham, 2020). The ability and understanding of teachers and administrators in aspects of digital literacy is the main provision in achieving the vision and mission of education to be achieved which includes improving the quality of learning.

Teacher digital literacy includes the ability to operate and integrate technological devices in supporting the learning process and considering aspects of student understanding with the methods practiced (Liu et al., 2020). In this study, the utilization of technological devices and applications through the teacher's digital literacy skills focus on the scope of Islamic Religious Education learning which includes the subjects of the Al-Qur'an Hadith, *Aqidah Akhlak, Fiqh*, and Islamic Cultural History.

Islamic Religious Education is a set of learning that aims to provide specific knowledge including the formation of attitudes, personality, and skills of students in an effort to practice the teachings of Islam, which is carried out at least through subjects at all levels of education (Martínez-Alcalá et al., 2021). In addition, teachers within the discipline of Islamic Religious Education learning also have pedagogical competencies that must be considered in implementing the learning process.

This is as stipulated in the Regulation of the Minister of Religion of the Republic of Indonesia Number 16 of 2010 concerning Management of Religious Education in Schools, Article 16 (2), namely, teachers must have special abilities about understanding the characteristics of students from physical, moral, social, cultural, emotional, and intellectual; mastery of the theory and principles of learning religious education; development of religious education curriculum; organizing religious education development activities; utilization of information and communication technology for the benefit of implementing and developing religious education; developing the potential of students to actualize their various potentials in the field of religious education; communicate effectively, empathetically, and politely with students; organizing assessment and evaluation of the process and learning outcomes of religious education; utilization of assessment and evaluation results for the benefit of learning religious education; and reflective action to improve the quality of religious education learning (Libriyanti, 2019).

In addition to teachers in the Islamic Religious Education discipline, they are required to have abilities in the aspects of digital literacy, and they are also expected to be able to synthesize them with pedagogical abilities. Therefore, the teacher's digital literacy ability in learning Islamic Religious Education is a unified whole between the existing regulations and the concentration of learning in dealing with the times (List, 2019). However in several aspects, there are obstacles faced by teachers

in dealing with technology-based learning contexts, including the lack of knowledge in implementing technological devices for learning and the process of adapting students to technology-based learning models (Marín & Castaneda, 2023). Therefore, in addition to digital literacy skills that teachers must have, the role of teachers and managers of educational institutions is also in increasing digital literacy among students.

Related Research

Several previous studies that have been conducted and are relevant to the context of this research, both abroad and in Indonesia itself, include research from Sedat Akayoglu et al. on "Digital literacy practices of Turkish pre-service EFL teachers." The results of this study indicate that the practice of digital literacy for prospective teachers in Turkey consists of several steps, including emphasizing aspects of understanding prospective teachers in using digital devices, the role of the university in developing the digital literacy skills of prospective teachers through a series of special trainings, and prospective teachers. Teachers still need more support in developing digital literacy skills for the benefit of the learning process (Akayoğlu et al., 2020). The research further explores the steps taken to develop the digital literacy skills of prospective teachers, especially in the English subject. The similarity of this research lies in the aspect of digital literacy, while the difference lies in the aspects of the methodology used and the research object.

Research from Hassan and Mirza on "The Digital Literacy in Teachers of the Schools of Rajouri (J&K)-India: Teachers Perspective." This study outlines the importance of teacher digital literacy in Rajouri schools, India, from the teacher's perspective. The focus of this research is on the aspects of the teacher's perspective in the use of learning technology applications as an effort to anticipate the COVID-19 pandemic so that the learning process continues (Hassan & Mirza, 2021). This research further explores the process of developing teacher digital literacy based on the teacher's perspective. The equation of this research is on the aspect of using digital technology in the learning process. The difference is in the teacher's digital literacy aspect which is based on the teacher's perspective, while the research conducted focuses on the teacher's digital literacy abilities in learning Islamic Religious Education.

Research conducted by Dashtestani R and Hojatpanah S with the title "Digital literacy of EFL students in a junior high school in Iran: voices of teachers, students and Ministry Directors." The results of this study indicate that based on the results of Mann–Whitney U, it can be concluded that there are differences in views between teachers, students, and the Iranian minister of education in understanding the concept of digital literacy (Dashtestani & Hojatpanah, 2022). This can be seen from the analysis of the results of interviews and questionnaires as the tools used to collect data in this study. In the interview process, teachers and students expressed an increase in the use of digital literacy in learning. Meanwhile, from the results of the questionnaire, teachers and students have a less understanding of digital literacy. Middle school teachers and students in Iran believe that digital literacy is only a

means of entertainment, not as a support for educational goals. Therefore, this study implies that curriculum reform that is integrated with technology needs to be carried out and is based on the context of learning in Iran. The difference between this research and what was carried out is in the aspects of the digital literacy concept used, namely, the perspective of digital literacy and digital literacy skills. The similarity is in the aspect of discussing digital literacy.

Meanwhile, in the Indonesian context, several studies that are also relevant to this research include research conducted by Andi Asari et al. on "Digital Literacy Competence for Teachers and Students in the Malang District School Environment." The results of this study show the urgency of the digital literacy competency program for teachers and students in terms of using technology in supporting the learning process and advancing education in Indonesia in the digital era (Asari et al., 2019). The implication of this research is that digital literacy is a practical solution in keeping up with the times through the concept of integration of technology and education. The location of this research equation is the research concept of teacher digital literacy and the research methodology used. Meanwhile, the difference is that this research places more emphasis on the competency aspects of digital literacy of teachers and students in high schools in Malang Regency, and the research conducted is more directed at the process of analyzing teachers' digital literacy abilities in learning Islamic Religious Education at Islamic Boarding Schools.

Research from Kholid on "The Importance of Digital Literacy for Teachers at Elementary Level Education Institutions and the Implications for the Implementation of Teaching and Learning Activities." The results of this study concluded that the teacher's level of digital literacy in operating and integrating technological devices with the learning process is still relatively low (Kholid, 2020). The use of technology by teachers is still limited to using the WhatsApp Group. Meanwhile, the use of technology applications such as Zoom Meeting and Google Meet is still rarely used with several considerations such as the teacher's ability to operate these applications. This research has its own differences from the research conducted, namely, on the aspects of teacher digital literacy and its implications for the implementation of teaching and learning activities in general. Meanwhile, the similarity lies in the concept of teacher digital literacy and the research methodology used.

Next is research conducted by Krida Singgih Kuncoro et al. entitled "Increasing Teacher Digital Literacy to Overcome Learning Problems in the Era of the Covid-19 Pandemic." The results of this study indicate that increasing teacher digital literacy through Community Service programs conducted on the islands of Sulawesi, Sumatra, Java, and Kalimantan has experienced a significant increase in terms of the use of technology in the learning process (Kuncoro et al., 2022). This suggests that the transformation and integration of education and technology can be balanced through programs to increase teacher digital literacy. This research has specific differences from the research conducted, especially in the aspect of increasing teacher digital literacy based on the Community Service program. Meanwhile, the similarity lies in the concept of teacher digital literacy in integrating technology with the learning process.

Purpose of the Study

The purpose of this study was to determine the digital literacy abilities of teachers in the learning discipline of Islamic Religious Education and to describe the efforts of Islamic Boarding Schools and teachers in increasing digital literacy in learning. In this research, the researcher provides the limitations of the research problem which only focuses on describing the digital literacy abilities of teachers based on LCD projectors, PowerPoint, and the use of information technology. To answer the research objectives, two formulations of the problem are formulated below:

1. How is the digital literacy ability of teachers in Islamic Boarding Schools?
2. What are the efforts of Islamic Boarding Schools and teachers of Islamic Education to increase digital literacy in learning?

Methods and Materials

Research Model

This study used qualitative research methods. According to Bogdan and Taylor, the qualitative method is a research procedure that uses descriptive data in the form of written/oral words from people and observed behavior (Andrews et al., 2022). In addition, qualitative research is used to obtain in-depth data through a process of in-depth interviews in the field and based on natural settings (Rijali, 2019). In this study, researchers examine social phenomena in an atmosphere that takes place normally or naturally, not controlled conditions in the form of direct learning processes that occur in Islamic Boarding Schools. Furthermore, the researcher explains the conditions or phenomena that occur in the field related to the digital literacy abilities of teachers in learning Islamic Religious Education at MTs *Nahdlatul Khairaat* Islamic Boarding School Donggala Regency based on the data that has been collected which is described in words or sentences, separated according to categories to obtain conclusions, and then developed into problems and their solutions, which are proposed to obtain truth (verification) in the form of empirical data support in the field (Nur & Utami, 2022).

Participants

The participants in this study consisted of 133 people including 15 teachers and 118 students at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, Central Sulawesi, Indonesia, in the 2021–2022 academic year. Furthermore, the determination of the main informants in this study was based on the purposive sampling method, namely, the selection of informants based on the level of knowledge of the research problem. The main informants in this study consisted of teachers, Islamic Boarding Schools, and students who are directly related to the scope of Islamic Religious Education, namely, Teachers of *Aqidah Akhlak*, *Fiqh*, Qur'an Hadith, History of Islamic Culture, Principals/Islamic Boarding

Schools, Deputy Headmasters/Islamic Boarding Schools, Section Administration, and students at the Islamic Boarding School. Meanwhile, MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School in Donggala Regency was chosen as the research location based on the considerations of the researchers, namely, the research location was relatively affordable, and the research location had never been studied by students or other researchers who discussed the digital literacy abilities of teachers within the scope of Islamic Religious Education.

Data Collection Tools

The data in this study were collected based on the interview guidelines that had been prepared by the researchers and modified into a semi-structured interview that referred to the results of initial observations at the study sites based on the observation guidelines (Li et al., 2019). Next, the researcher formulated specific interview questions based on the expertise of the selected informants.

The observation guidelines in Table 1 are the first step taken by researchers in understanding more about the research problem. After making participant observations at the research location, the researcher formulated an interview guide that contained specific interview questions for key informants obtained based on the results of observations, as described in Table 2.

In Table 2, the interview questions were formulated based on the observation guidelines and also the formulation of the problems previously formulated in this study. All of these questions try to answer the formulation of the problem, namely, the ability of digital literacy of teachers within the scope of learning Islamic Religious Education in Islamic Boarding Schools and the efforts of Islamic Boarding Schools and teachers in increasing digital literacy in learning.

Data Collection Process

Research data was collected through three data collection techniques in qualitative research, namely, observation, interviews, and documentation (Upright & Forsythe, 2021). The

Table 1. Observation Guidelines.

Guidelines
Observation of the environment of MTs Nahdlatul Khairaat Labuan Islamic Boarding School, Donggala Regency
Observation of the condition of teachers, staff, and students at MTs Nahdlatul Khairaat Labuan Islamic Boarding School, Donggala Regency
Observation of the condition of facilities and infrastructure at MTs Nahdlatul Khairaat Labuan Islamic Boarding School, Donggala Regency
Observation of teachers' digital literacy abilities within the scope of Islamic Religious Education learning at MTs Nahdlatul Khairaat Labuan Islamic Boarding School, Donggala Regency

Table 2. Interview Guidelines.

Informant	Interview questions
Head of School	1. What is the history of MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency? 2. What is the vision, mission, and objectives of MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency? 3. What is the condition of the students at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency? 4. What is the condition of the facilities and infrastructure at MTs *Nahdlatul Khairaat* Islamic Boarding School, Labuan, Donggala Regency? 5. What is the condition of the teaching staff at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency?
Islamic Religious Education Teacher	1. What is the process of implementing digital literacy in Islamic Boarding Schools? 2. How is the digital literacy ability of teachers in Islamic Boarding Schools? 3. What digital media do you use in the learning process? 4. Are you able to operate the LCD projector, WhatsApp, PowerPoint, and Zoom? 5. What do you think about how important digital literacy is for Islamic Religious Education teachers today? 6. What are the efforts of Islamic Boarding Schools and teachers in increasing digital literacy in Islamic Boarding Schools? 7. What facilities and infrastructure support in increasing digital literacy in Islamic Boarding Schools? 8. What are your independent efforts to improve digital literacy? 9. What are you trying to do to improve the digital literacy of teachers at Islamic Boarding Schools? 10. How do you respond to effective ways to increase teacher digital literacy?
Student	1. Does the teacher use LCD projectors, PowerPoint, Zoom, and Google Classroom when teaching? 2. Are you able to understand the material taught by the teacher when teaching using LCD projectors, PowerPoint, Zoom, and Google Classroom when teaching?

researcher previously made observations at the research location by involving himself directly in observing all the processes that occurred at the Islamic Boarding School. From the observation process, the researcher has initial data which is then formulated in the form of an interview guide and conducts a direct interview process with predetermined informants. Interviews were conducted for each informant for 20–30 min. After the interview process, the researcher conducted a search of documents or archives at the Islamic Boarding School related to the research topic as a form of disbursing the strengthening of the interview data. The process of observation, interviews, and

documentation as data collection techniques in this study took place from November 24, 2021, to December 17, 2022.

Data Analysis

The data analysis process in this study uses the help of NVivo which is one of the software that uses data in qualitative data analysis. Data analysis in research is an important process that must be carried out carefully and thoroughly. Therefore, in the process of analyzing research data with the help of NVivo, the first step taken by the researcher was to prepare all the data, both primary and secondary data (Jackson & Bazeley, 2019). For interview data which was still in the form of voice recordings, the researcher carried out a careful transcription. Then, the data that has been prepared is entered into NVivo for the coding process (Mortelmans, 2019). In the coding process, researchers categorize data thematically based on research problems with the aim of facilitating understanding of the data. After that, the data reduction process was carried out by the researcher to produce the main themes related to the research topic. The last step is after data reduction, and then the data is visualized to facilitate analysis and the process of drawing conclusions. The entire data analysis process using NVivo is described below (see Figure 1).

Figure 1 shows the flow of data obtained based on interview results from informants and analyzed using the Concept Map feature in NVivo software. The data analysis process using the Concept Map feature begins with mapping and grouping data based on predetermined data categories, namely, data related to teachers' digital literacy abilities. Next, the data was grouped into several sub-categories which were obtained based on the results of the researcher's reading and analysis. In this research, there are three sub-categories that cannot be separated from the research problem formulation, namely, the efforts of Islamic Religious Education teachers to increase digital literacy in the learning process, the efforts of Islamic Boarding Schools, and also the digital literacy skills of teachers in improving Islamic Religious Education learning in Islamic Boarding Schools. After that, the entire interview data was coded into sub-categories based on the research approach used to produce specific points which then became the research results. Then, the final step is to map the research results which are then explained further and in detail in the discussion section to reach the research conclusion stage.

Results

Teachers' Digital Literacy Ability in Islamic Religious Education Learning

The teacher's understanding of digital literacy is the main key in understanding the abilities possessed. As previously explained, digital literacy is interpreted as an individual's ability to operate and utilize technological devices to optimally support activities. Therefore, the teacher's digital literacy ability is defined as the overall ability of the teacher to operate technological devices in the learning process. Findings in research on teachers' digital literacy skills in improving learning of Islamic
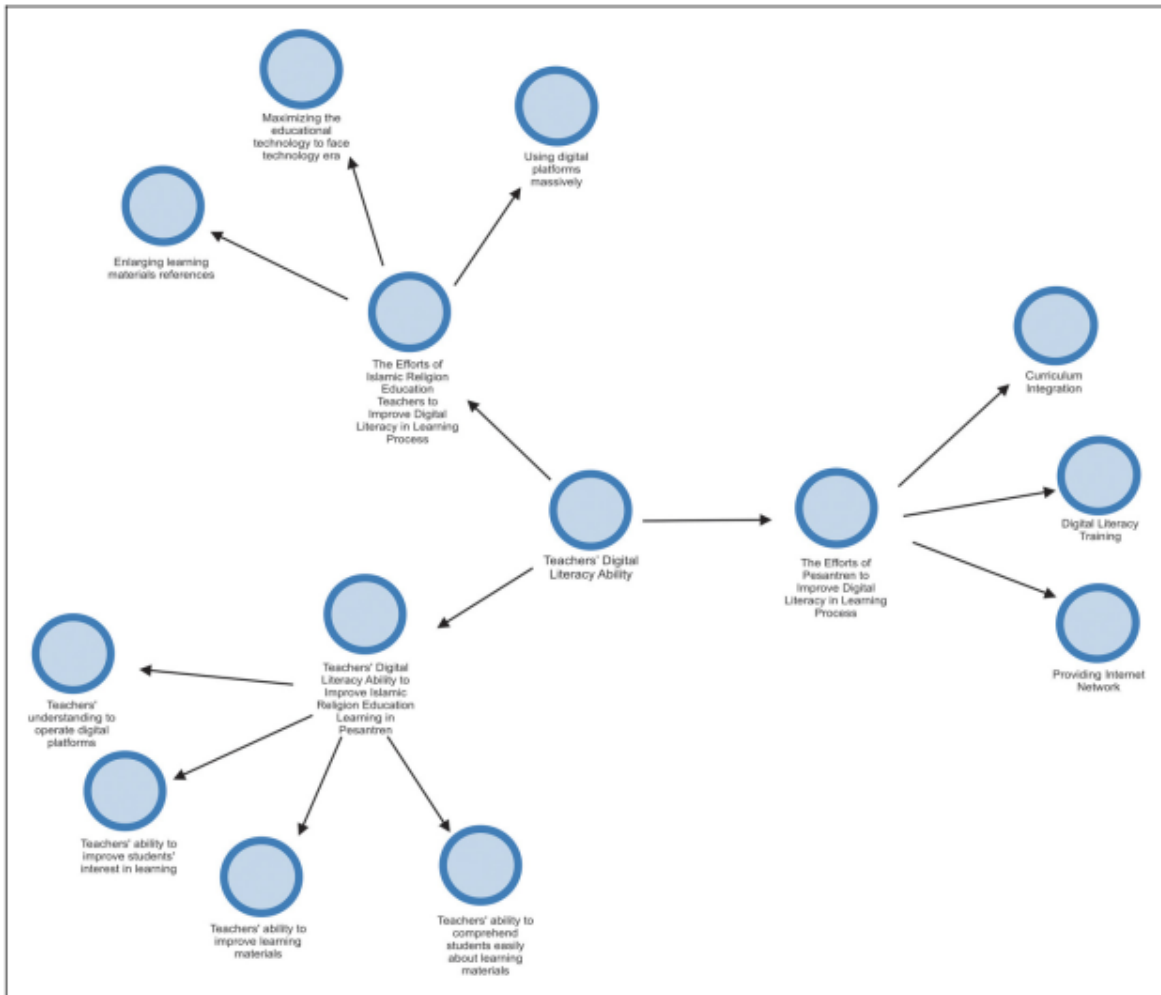
Figure 1. Specific themes in teachers' digital literacy ability.

Religious Education at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, include teachers' ability to comprehend students easily about learning materials, to improve learning materials, and to improve students' interest in learning, teachers' understanding to operate digital platforms. Figure 2 illustrates the components of the teacher's ability to utilize digital literacy to increase learning in Islamic Religious Education.

Although the concept of digital literacy has not been fully implemented at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, due to the lack of understanding of the operation of technological devices, both teachers and students, however, its implementation has been slowly being carried out, such as the use of LCD and PowerPoint in the learning process in class. This was stated by the Head of Islamic Boarding School:

> The process of implementing digital literacy at the Nahdlatul Khairaat Labuan Islamic
> Boarding School, Donggala Regency, has been carried out mainly by Islamic Religious

Education teachers, but the implementation process is not effective due to the COVID-19 outbreak, so learning time is limited, which was originally 40 min, changed to 30 min at a time. meetings on each subject of Islamic Religious Education. and all the teachers referred to here are teachers in the Islamic Religious Education family who already understand using digital tools during learning such as using LCD projectors, power points, and using information technology such as Whatsapp, Zoom and Classroom. modern and sophisticated teachers must be required to be able to use digital tools so that they know and can use digital tools.

The implementation of the concept of digital literacy in the learning process at Islamic Boarding Schools has been able to be practiced by Islamic Religious Education teachers. This can be seen from the gradual increase in the teacher's ability to operate the technological devices used to support the learning process. In general, ability is defined as the ability or potential of an individual based on a certain size in doing something. Based on research findings, the digital literacy abilities of teachers in Islamic Boarding Schools include the ability to operate digital devices in learning such as proficiency in using LCD projectors and PowerPoint, being able to utilize other information and communication technology (ICT) platforms such as Zoom and Google Classroom, and teachers find it easier to deliver learning materials to students. Figure 3 describes the process of teachers' ability to operate the digital platform and its impacts.

The ability of Islamic Religious Education teachers at Islamic Boarding Schools to operate digital devices in the learning process includes the use of technological devices such as LCD projectors and PowerPoint as well as the use of other technologies such as Zoom and Google Classroom. This has a significant impact on both teachers and
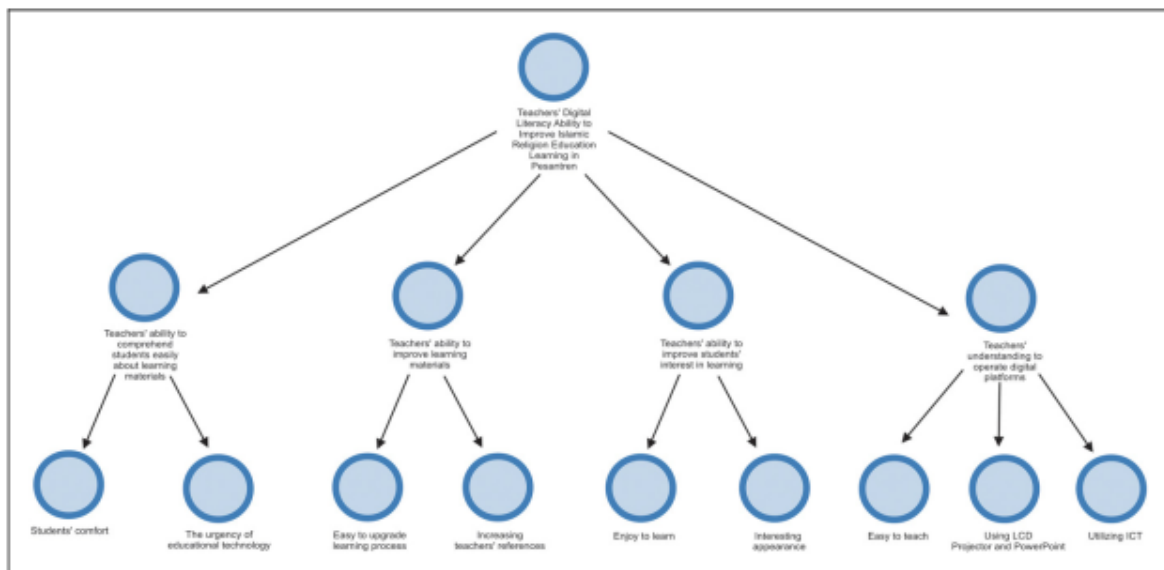

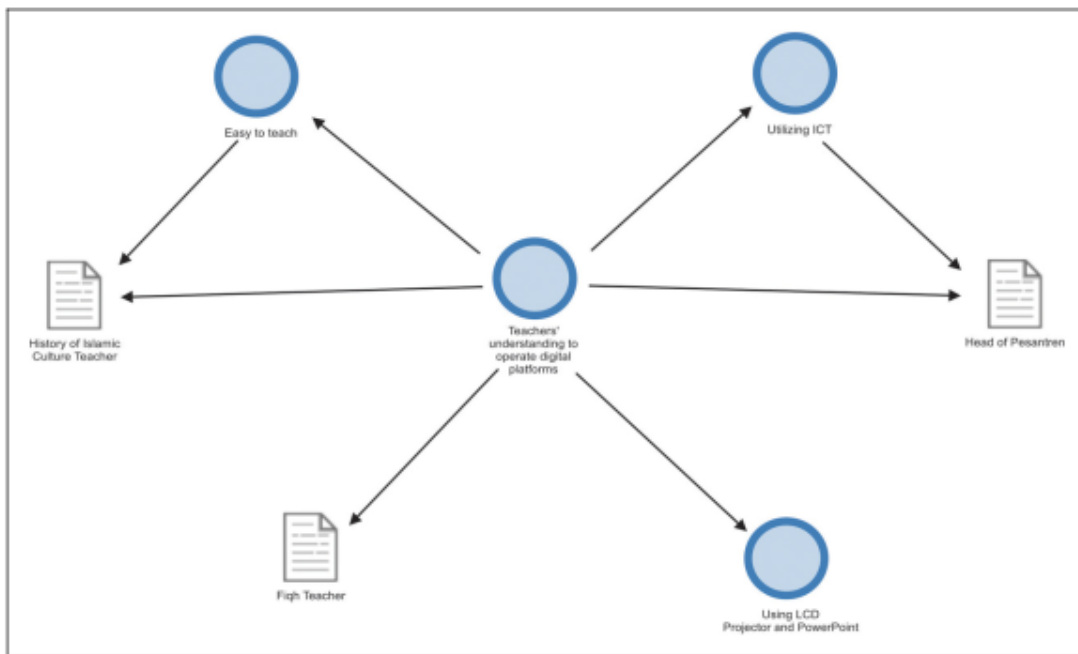**Figure 2.** Teachers' digital literacy ability analyzing in Islamic Boarding Schools.

Figure 3. The analysis of teachers' ability to operate digital platforms.

students. One of the impacts felt by the teacher from the ability to operate technology in learning is the ease in delivering learning material to students. This was revealed by the History of Islamic Culture Teacher:

> I also use information technology and power point because the presence of media makes it much easier for me to do learning, especially on the subjects I bring to class so the teacher doesn't have to explain the material directly to students.

Based on the description above, one form of ability possessed by Islamic Religious Education teachers in Islamic Boarding Schools in terms of digital literacy is the teacher's ability to operate digital devices, and this has an impact on the ease felt by teachers in teaching, even though in terms of supporting facilities and proficiency in operating all technological devices in learning it is still lacking. The ability to operate technology devices to support learning is the main thing in improving digital-based learning processes.

Furthermore, besides the teacher's ability to operate technological devices, other abilities related to digital literacy in learning Islamic Religious Education at Islamic Boarding Schools are that teachers are able to easily provide students with an understanding of subjects and students can easily understand. In addition, students also feel a special interest in dealing with learning and understand more about the importance of technology-based learning in dealing with the times (see Figure 4).

In Figure 4, in terms of implementing digital literacy in Islamic Boarding Schools, the teacher's ability to provide students with an understanding of learning is one of the
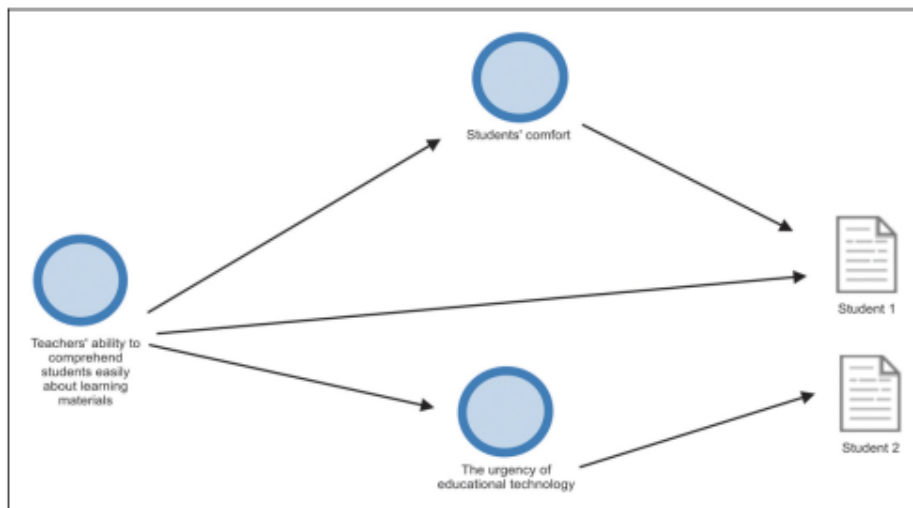
Figure 4. The analysis of teachers' ability to comprehend students.

abilities that originates from skills in digital literacy. Not only that, based on research findings, the impact of the teacher's ability to provide understanding to students through technology-based learning is that students can comfortably face the learning process and are able to understand the importance of integrating technology and education in improving educational achievements in the future, as the results of interviews with one of the Islamic Boarding School students:

> During learning we really understand and understand, like Islamic Religious Education teachers who teach using digital tools so that students don't get bored because of the attractive displays in the learning material.

> Technology is very important when learning in class, teachers use media such as LCD projectors, PowerPoint, and Google when delivering material to students.

The interview excerpt above implies that the teacher's ability to provide an understanding of learning material to students through technology-based learning media can make students feel comfortable and interested in participating in the learning process. The use of technology in today's learning is very important because considering that students or the younger generation today have more interest in technology products so that in dealing with learning contexts, students can easily adapt to learning conditions. The things that make students interested in learning lie in the teacher's ability to make it easy for students to learn and present subject matter in visual communication (see Figure 5).

Another teacher's digital literacy ability in the discipline of Islamic Religious Education at Islamic Boarding Schools is that teachers are able to improve and upgrade each subject matter so that it appears in accordance with developments.
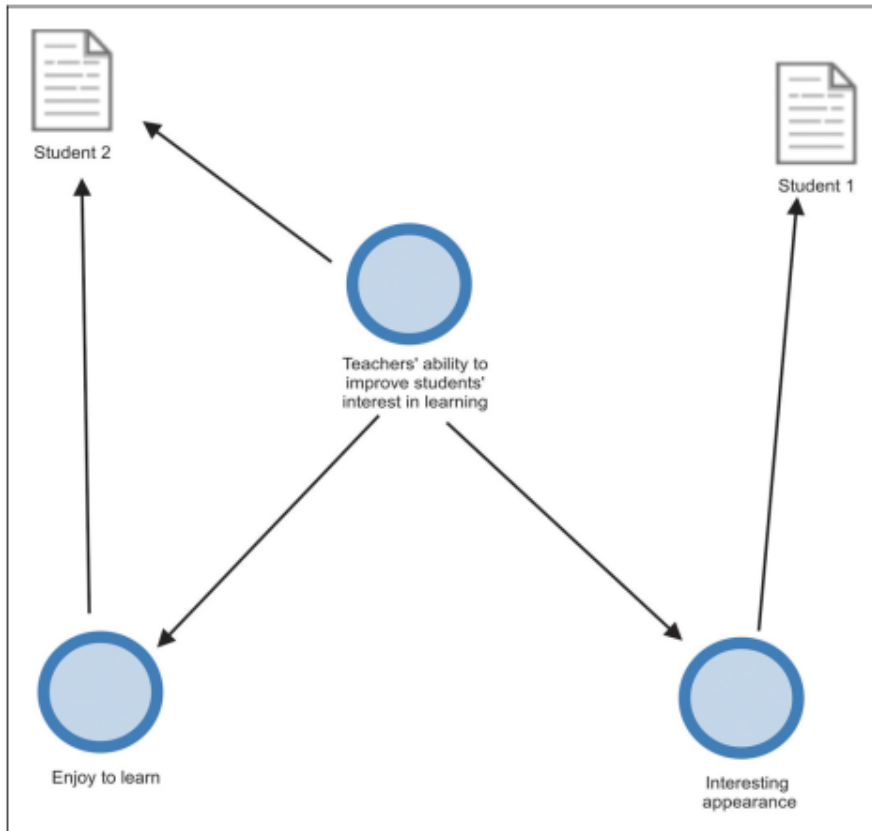
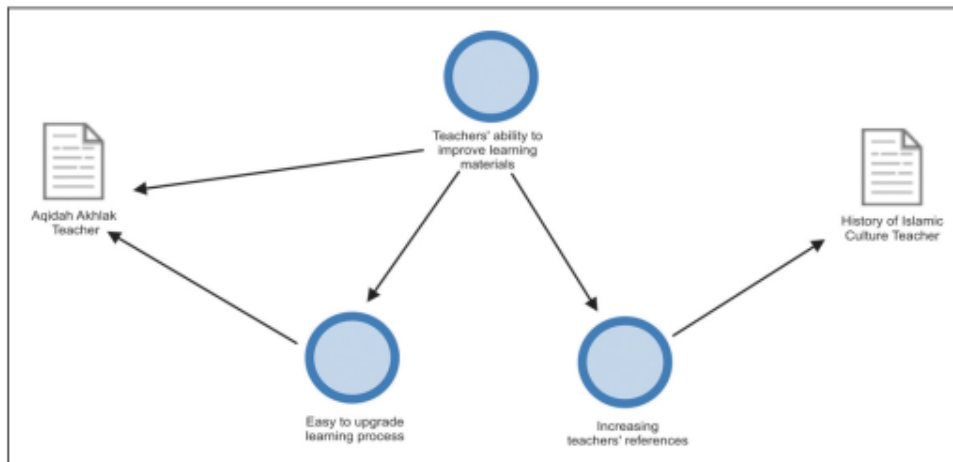**Figure 5.** The analysis of teachers' ability to improve students' interest.

Figure 6. The analysis of teachers' ability to upgrade learning materials.

This is facilitated by the freedom of teachers to access learning materials on the internet as shown in Figure 6.

The ease of teachers in carrying out the process of updating teaching materials in subjects related to Islamic Religious Education in Islamic Boarding Schools is fully

supported by technology-based learning facilities as expressed by *Aqidah Akhlak* and History of Islamic Culture Teacher:

> … adding references so that teachers can access material on Google search to find incomplete learning material in textbooks.

> …digital which is much easier to access various digital tools or media which are actually a reference for teachers as something that is expected to master and learn them.

Based on the interview excerpts above, the teacher's ability to improve learning material by using technological devices is a form of implementing digital literacy for Islamic Religious Education teachers in Islamic Boarding Schools. This ability is obtained based on the habits of Islamic Boarding Schools which have transformed toward a digitalization context so that all learning activities are based on the use of technology:

Efforts of Islamic Boarding Schools and Teachers of Islamic Education in Increasing Digital Literacy in Learning

Islamic Boarding School Efforts. The role of Islamic Boarding Schools in supporting the improvement of teachers' digital literacy in learning is very important. One form of effort made by Islamic Boarding Schools is the implementation of training on the use of technology to support learning. These efforts can be viewed from various aspects, including strengthening and integrating curriculum, developing facilities and infrastructure, and developing human resources through training in Islamic Boarding Schools as illustrated in Figure 7.

One form of Islamic Boarding School effort in developing teacher digital literacy in learning is the development of human resources in Islamic Boarding Schools carried out through the implementation of special and intensive training among Islamic Religious Education teachers as an effort to increase digital literacy. Training is carried out in various aspects such as the ability of each individual. In Islamic Boarding Schools, the inability of teachers to operate technological devices can be minimized through the support of young teachers who are always ready to help if there are teachers who do not understand how to use digital tools and run an application, as revealed by the Head of Islamic Boarding School:

> There is an effort from the madrasah, so there are instructors and they learn together but to become able to also return to each individual. Generally, it is conveyed but the ability of each individual is different, such as using an LCD Projector, Power point, and the use of information technology and other supports. Here, incidentally, there are younger teachers. If we are teachers of a certain age and feel we don't understand digital media, now it's young teachers who are asked for help and want to help.
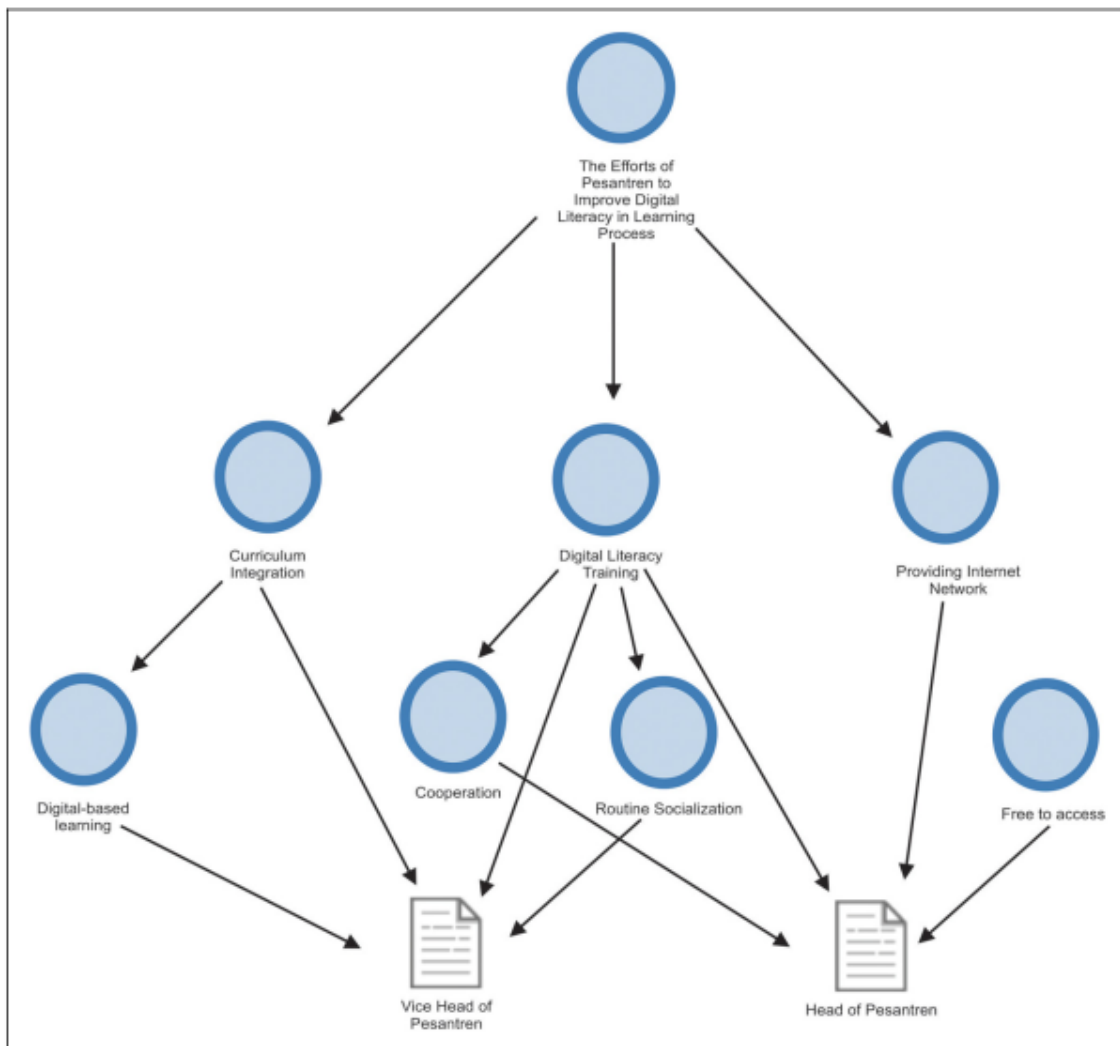
Figure 7. The analysis of Islamic Boarding School's efforts to improve digital literacy.

The digital literacy training model for Islamic Religious Education teachers in Islamic Boarding Schools emphasizes aspects of collaboration among teachers and mutual support for one another. This is done as an effort to improve the ability to achieve educational goals based on the context of the times. In addition, curriculum integration is also carried out at Islamic Boarding Schools, namely, the integration of the 2013 curriculum with the concept of digital literacy so that the learning process allows access, understanding, and communicating, as well as analyzing information originating from the internet, as stated by the Vice Head of Islamic Boarding Schools:

> Using the 2013 curriculum, used from 2014, is very supportive for children's teachers. If there is material in the book, there is no browsing, at school it is permissible to bring a cell phone if someone has it so that when learning students are allowed to browse the internet.

This curriculum integration aims to cultivate the concept of digital-based learning both among teachers and students so that they are accustomed to the operation of educational technology and are able to have special abilities in learning along with the times. Furthermore, in terms of human resource development and curriculum integration, Islamic Boarding Schools seek to provide supporting facilities and infrastructure such as the provision of internet networks in Islamic Boarding Schools as the main support for digital-based learning. This was revealed by the Head of Islamic Boarding School:

> There is an internet network that we facilitate, with a sizable fund to make it run smoothly, namely 2 million/month, so that everything related to the internet can run smoothly. Then there is a computer lab with laptops that teachers and students can use to study.

Based on the explanation above, the role of the MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School in Donggala Regency in increasing digital literacy in learning is to develop human resources through special training based on empowering the abilities of each teacher, carrying out the curriculum integration process from the 2013 curriculum to a digital-based curriculum, and providing learning support facilities and infrastructure such as the provision of internet networks in facilitating access to learning materials.

Islamic Religious Education Teacher Effort.   Apart from the role of the MTs *Nahdlatul Khairaat* Labuan Islamic Boarding School, Donggala Regency, teachers also have a special role in developing digital literacy in learning. One form of the teacher's role is to get used to the use of digital tools in the learning process, expand the scope of learning references via the internet, and maximize the use of educational technology in facing the technological era. This can be seen in Figure 8.

Creating habits in using technological devices for the learning process is a step taken by Islamic Religious Education teachers at the MTs *Nahdlatul Khairaat* Islamic Boarding School, Labuan, Donggala Regency. This can be seen through the activeness of teachers in using digital tools during learning both independently and from school and the independent efforts made by Islamic Religious Education teachers in accessing supporting applications to assist during learning by re-learning the use of learning applications. Expanding learning resources, by utilizing technological media, is also very influential in the ability to use digital tools in Islamic Boarding Schools, as revealed by History of Islamic Culture, Qur'an Hadith, and *Aqidah Akhlak* Teacher:

> Utilization of information technology, such as searching for material on Google, has been used before in searching for learning material, and using LCD projectors along with Power Point at least we can do it, due to the age factor, but sometimes we have to be obliged to learn digital technology, if we want to learn, we will definitely learn. can. In accordance with my knowledge and profession as a teacher, I will continue to try to add insight.
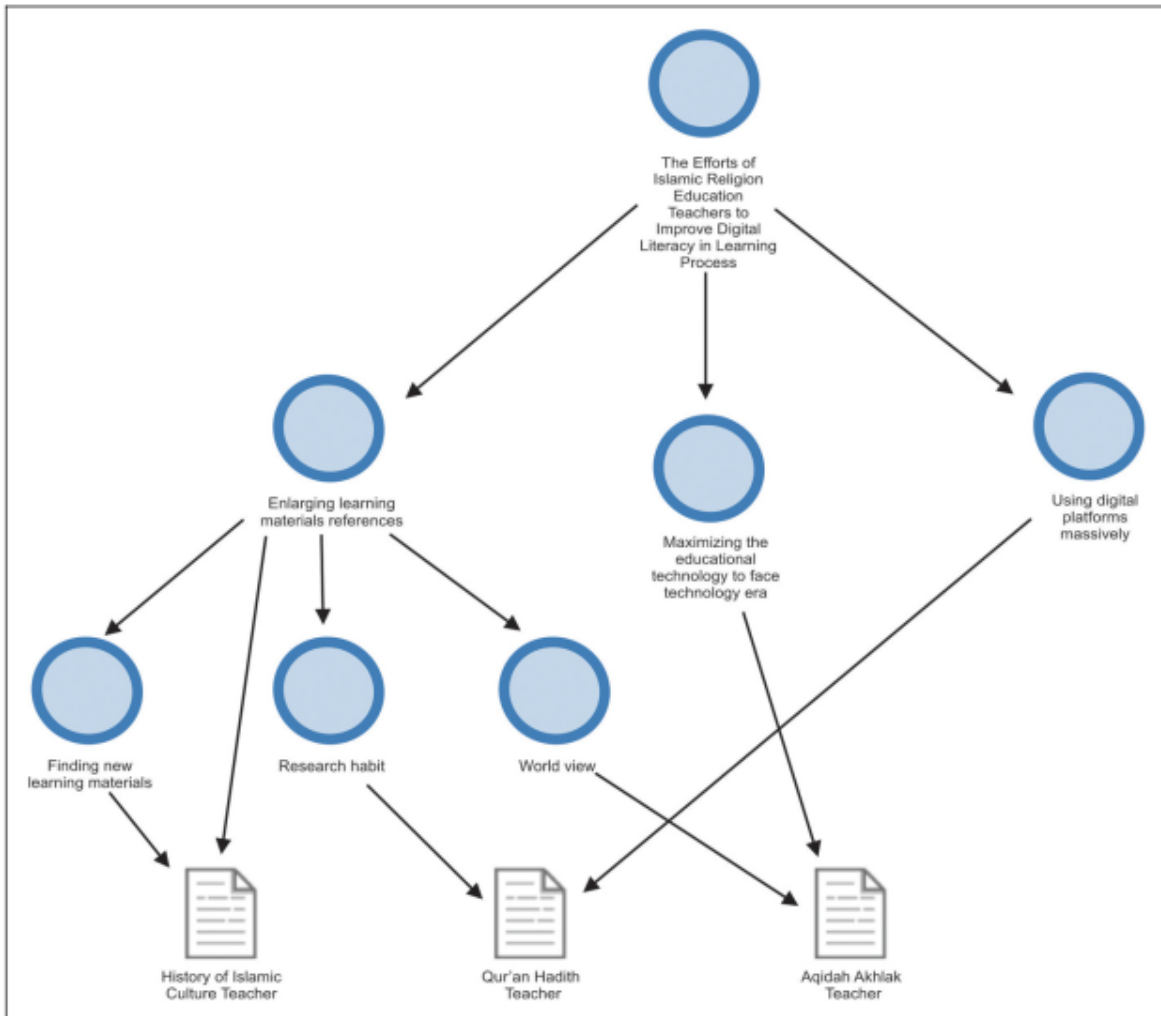
Figure 8. The analysis of teachers' efforts to improve digital literacy.

It is very important, if we learn from media such as print or so on we are limited by different references to digital which is much easier to access various digital tools or media which are actually a reference for teachers as something that is expected to master and learn them.

To add insight, to face the times, what is on the internet is always changing and different. Teachers must keep up with the times by learning digital tools. So we shouldn't blame the change, but we see the change is how we have to deal with it as a teacher.

Based on the explanation above, Islamic Religious Education teachers at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, have roles and efforts in increasing digital literacy in learning. The efforts made are using digital devices for massive learning, maximizing the use of educational technology to deal with the technological era, and expanding learning references through the

use of the internet; this also has a positive impact on teachers such as being able to find new learning materials, creating research habits in among teachers, and able to develop teachers' understanding and views about the flow of educational technology development in Islamic Boarding Schools.

Discussion

The transformation of education from a conventional system to a digital-based system is a form of educational reform in dealing with the context of the times. The development of educational technology in learning must be followed by basic skills in operating technological devices both among educators and students. This basic ability, in this study, is termed teacher digital literacy, namely, the teacher's ability to transform learning based on the use of technology.

As described in the results of previous studies, the teacher's digital literacy skills in the discipline of Islamic Religious Education at the MTs Nahdlatul Khairaat Labuan Islamic Boarding School, Donggala Regency, consist of the teacher's ability to provide students with an understanding of learning through digital learning media, the ability to develop teaching materials, the ability to draw student learning interest, and the ability to operate digital devices. The use of digital technology, such as LCD projectors, PowerPoint, Zoom, and Google Classroom, which is carried out by teachers independently and massively can increase digital literacy skills in facing the era of educational technology and advancing Indonesian education (Hardiyanti & Alwi, 2022; Wardhana, 2020).

In addition, the findings of this study also illustrate that the digital literacy skills of Islamic Religious Education teachers are able to increase students' interest in learning and enjoy the learning process so that it influences student learning outcomes. A process or learning design that is able to make students interested and enthusiastic in learning is a key concept for the success of learning innovations, especially digital literacy (Landa et al., 2021). Learning models based on the needs and interests of students will have a positive impact on learning outcomes and self-quality, as happened at the MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency (Sri Dwijayanti & Sari, 2021).

Meanwhile, increasing teacher digital literacy skills is also influenced by the role of Islamic Boarding Schools and the role of teachers in increasing digital literacy in the learning process (Muflihin, 2020; Sánchez-Cruzado et al., 2021). This research also shows the role of Islamic Boarding Schools and teachers at MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency, in increasing digital literacy in learning. Efforts made by the Islamic Boarding School are conducting special training based on empowering the abilities of each teacher, integrating digital-based curricula, and providing internet networks to facilitate access to learning materials. Meanwhile, the efforts of Islamic Religious Education teachers are to use digital devices for massive learning, maximize the use of educational technology to face the technological era, and expand learning references through the use of the internet.

Conclusion

This study describes the digital literacy abilities of Islamic Religious Education teachers at the MTs *Nahdlatul Khairaat Labuan* Islamic Boarding School, Donggala Regency. As a form of conclusion, the results of the research in this study are the ability of digital literacy of teachers in the Islamic Religious Education family at the Islamic Boarding School MTs *Nahdlatul Khairaat Labuan* Donggala Regency in general to be implemented and run effectively, especially in terms of the ability of teachers to use digital tools during learning and understand that digital literacy is very important in this era, especially in expanding learning resources and developing the quality of learning.

   In addition, the efforts of the Islamic Boarding School and Islamic Religious Education teachers to increase digital literacy in learning are the activeness of teachers in increasing digital literacy in Islamic Boarding Schools and maximizing the use of digital technology in learning. Meanwhile, the efforts of Islamic Boarding Schools to improve digital literacy are to integrate digital-based curricula, develop facilities and infrastructure by allocating budgets for internet networks specifically for students to support the learning process, and hold regular digital literacy training to help students and teachers improve their abilities, so that the learning process runs effectively based on the times.

   This research is limited to the aspect of analyzing teachers' digital literacy abilities in specific disciplines and is carried out in Islamic Boarding Schools. This research does not comprehensively cover other digital literacy practices in both schools and Islamic Boarding Schools, and the description of educational technology in the concept of digital literacy is only centered on the use of LCD projectors, PowerPoint, Zoom, and Google Classroom as learning support media.

Recommendations

This study recommends carrying out further research on teachers' digital literacy abilities using a mixed method and a larger population and sample size. In addition, related research in the future can thoroughly describe the effect of teachers' digital literacy abilities on student learning outcomes and psychology study related to study outcome based on the use of technology in learning. Nevertheless, the results of this research provide an offer to education policymakers, especially at the upper secondary education level, to apply the concept of education based on the use of technology as an effort to increase digital literacy both among students and teaching staff in facing the context of current developments. Apart from that, in practice, this research offers a strategy for improving digital literacy skills, including developing a learning curriculum through the integration of education and technology and improving digital-based learning.

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ORCID iD

Askar Nur https://orcid.org/0000-0003-4107-7138

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Author Biographies

Hamlan Andi Baso Malla is a Doctoral of Islamic Education and a lecturer at Universitas Islam Negeri Datokarama, Palu. His research interest includes Islamic school management, digital literacy in Islamic school, and Islamic education study.

Hamka is a Doctoral of Islamic Education and a postgraduate lecturer at Universitas Islam Negeri Datokarama, Palu. His research interest includes E-learning concept, educational technology, and educational management.

Anies Haryani is a postgraduate student t Universitas Islam Negeri Datokarama, Palu. Her research interest includes learning curriculum, school management, educational evaluation, and digital literacy.

Ardillah Abu is a lecturer of social science studies at Universitas Islam Negeri Datokarama, Palu. His research interest includes education and social science, learning method, learning evaluation, and sociology of education.

Askar Nur is a postgraduate student of anthropology department at Universitas Hasanuddin, Makassar. His research interest includes anthropology of education, quality assurance in Islamic university, and education policy strategy.

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