Digital learning using Maktabah Syumilah NU 1.0 software and computer application for Islamic moderation in pesantren

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ABSTRACT

Digital learning through computer software and applications is rarely applied by pesantren (Islamic boarding schools) in Indonesia. So far, the application commonly used by traditional (*salaf*) pesantren, modern (*khalaf*) pesantren, and integrated pesantren is the Maktabah Syamila application. However, in Maktabah Syamila, religious radicalism, false hadiths, and texts allow the killing of innovators. Responding to this, pesantren activists developed digital learning through the application and computer program Maktabah Syumilah NU 1.0 as a comparison to Maktabah Syamila and an alternative to learning in pesantren as a counterradicalism. The research explores digital learning through Maktabah Syumilah NU 1.0 software and computer application to cultivate religious moderation in Temanggung Regency, Central Java, Indonesia. The qualitative research method with case studies on ten traditional pesantren using Maktabah Syumilah NU 1.0. The results show that digital learning through Maktabah Syumilah NU 1.0 is carried out in various activities in and outside the pesantren. The application of Maktabah Syumilah NU 1.0 is used to cultivate Islamic moderation for *santri* (students of pesantren). The use of Maktabah Syumilah NU 1.0 has an impact on strengthening Islamic moderation in pesantren. This research recommends that the Ministry of Religious Affairs implement Maktabah Syumilah NU 1.0 in all pesantren. Future researchers must explore digital learning more deeply through the latest applications for strengthening Islamic moderation in pesantren.
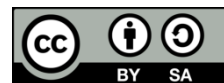
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1. INTRODUCTION

Pesantren or Islamic boarding school, as the oldest educational institution in Indonesia, has minimal innovation in digital-based learning, mainly traditional (*salaf*) ones [1]–[4]. Pesantren are required to adapt to the times, integrating religion, science, and digital technology [5], [6], utilizing information and communications technology (ICT) such as digital curricula, e-libraries, digital dictionaries, mobile applications, websites,

software, multimedia, mobile learning, e-learning, social media, and others in the learning process [7]–[15]. The use of digital technology in learning in pesantren is an implementation of the critical pedagogy of Islamic education, which must be developed according to the times continuously [16]–[18]. In reality, only modern pesantren (*khalaf*) and integrated pesantren in Indonesia have implemented digital learning, while traditional pesantren still have little response to digital development [19], [20].

Unlike in Indonesia, Islamic education activists and researchers worldwide have innovated and developed applications for digital learning [21]. Conceptually, digital learning is online, distance-based learning using text, images, videos, games, compact disks, applications, and the internet [22]–[24]. The learning model in pesantren is divided into two: from the *kiai* (teacher) directly and using technology such as digital books, the internet, websites, and applications [25], [26]. Islamic education activists also respond to efforts to meet these needs by seeking the integration of the Quran and Al-hadith with technology that is practically useful for learning the Quran, Hadith, and yellow classical books in digital-based pesantren [27], [28]. The Middle East and some Southeast Asia countries have developed applications to support digital learning in Islamic education. In Malaysia, digital learning in Islamic education uses Digital Hadith Application (DHA). Applications and software developed on DHA include Al-Mawsu'ah Al-Hadisiyyah, Al-Jami' Al-Hadis Al-Nabawi, Al-Durar Al-Saniyyah, Ensiklopedia Hadis 9 Imam (mobile), Islamweb, iShamela, Maktabah Al-Syamilah, Maktabah Al-Hadis Al-Syarif, Mawsu'ah Al-Hadis Al-Nabawi Al-Syarif, and Mawsu'ah Al-Syamilah, Mawqi' Al-Islam [29]. The most popular apps for Arabic digital learning in pesantren in Indonesia are Al-Maktabah As-Syamilah, Al-Maktaba Al-Shamela, Maktabah Syamilah, or Maktabah Al-Syamilah [30], [31].

Conceptually, Maktabah Syamilah (literally a well-equipped library) is a computer program developed by a religious charity that contains digital copies of Arabic texts in metadata and manual double-keying. All literature can be accessed online and offline as it is designed to be Windows-based on a computer without being connected to the internet [32], [33]. Besides being a digital learning resource, Maktabah Syamilah is used to find references to Arabic scientific articles in 53 categories of knowledge groups with details of 6688 original books. Users enter keywords according to the discipline, knowledge, or information needed with reference citations, including the work's title, author's name, year of publication, city, chapter, and page [31]. Maktabah Syamilah is flawed because it contains false traditions, books that teach violence against innovators, splinter sects, Wahabism, and even radicalism in the name of religion [33]–[35].

Responding to the shortcomings of Maktabah Syamilah, pesantren education activists in Indonesia developed an application called Maktabah Syumilah NU 1.0 computer application and software in the form of a digital library, containing Islamic literature from various disciplines in Arabic, Indonesian and Javanese. This application is designed differently from Maktabah Syamilah developed by Ilzamul Wafik from Pesantren of Assalafiyyah Mlangi, Yogyakarta, Indonesia, which was launched on August 1-5, 2015, during the 33rd Nahdlatul Ulama Congress in Jombang, East Java, Indonesia and has become the property of the Central Board of Nahdlatul Ulama (PBNU) [36], [37], [38]. This application is used by Pesantren of Nahdlatul Ulama in learning as a comparison to digital book software outside the pesantren environments, especially the Maktabah Syamilah application, which tends to contain radical books [39]–[42]. The above phenomenon is a dilemma because the current trend of pesantren is encouraged to adapt to the times with digital learning, mastering digital literacy, and digital ethics. Still, the most widely used digital learning application in pesantren is Maktabah Syamilah which has a gap in the transfer of radical ideology [43], [44]. Pesantren in Indonesia are required to maintain religious moderation, humanism, local wisdom, and religious ways according to the principles of Islam as *rahmatan lil 'alamin* (mercy for all worlds) and counter-narratives against radicalism movements spread through technology [18], [26], [45]. Since the last decade, pesantren in Indonesia have been in the spotlight in mainstreaming Islamic moderation. Conceptually, Islamic moderation (*wasatiyyah*) is teaching and a way of religion that is in the middle, prioritizing justice and tolerance, not radical and not liberal [46]–[51]. This is what requires pesantren in Indonesia to choose the correct application for digital learning [52].

Research in Brunei Darussalam says digital learning effectively cultivates a very moderate *Ahlussunnah Waljamaah* (literally "the people of the Sunnah and the community") brand of Islam [53]. Digital learning is effective for instilling Islamic moderation through the values of *Ahlussunnah Waljamaah* in pesantren, with practical applications easily digested by students [54]. Several studies have explored digital learning through applications and learning models in pesantren. SANGO application is used as a medium for financial and accounting literacy in pesantren [55], Gestalt game to increase the religiosity of students [56], Maktabah Syumilah NU 1.0 at Pesantren of Assalafiyyah Mlangi, Sleman, Yogyakarta to prevent religious radicalism [37], and Maktabah Syumilah NU 1.0 to instill religious moderation at Pesantren of An-Nur Al-Huda Ngawonggo, Tajinan, Malang, East Java, Indonesia [57]. This confirms that digital education is necessary for pesantren to do while still filtering the entry of radical books through appropriate applications.

Unlike the studies above, this research is different because studies on Maktabah Syumilah NU 1.0 are minimal in Indonesian pesantren due to human resources, availability of digital devices, the internet, and culture in traditional pesantren that are still conventional [58], [59]. It was based on the distortion (*tahrif*) of

the contents of the books and the content of Wahabism in the Maktabah Syamilah application so that the background of the birth of Maktabah Syumilah NU 1.0. The researchers have not thoroughly examined Maktabah Syumilah NU 1.0 as an alternative application in ideology-friendly digital learning and for strengthening religious moderation. This is strategic because ICT has proven effective in education [60]. Pesantren in Temanggung Regency, Indonesia, only a few of which use the Maktabah Syumilah NU 1.0 application in learning, are still rarely researched, so the use of applications in digital-based education in pesantren is the background of this study.

This study explores digital learning through the application and computer program Maktabah Syumilah NU 1.0 in Islamic moderation in pesantren in Temanggung Regency, Central Java, Indonesia. This research explains digital learning, usage, and the impact of using Maktabah Syumilah NU 1.0 computer software and applications in cultivating Islamic moderation in pesantren, which is still rarely done by pesantren in Indonesia. Therefore, three questions arise in this case: i) How is digital learning through Maktabah Syumilah NU 1.0 software and computer application? ii) How is the use of Maktabah Syumilah NU 1.0 in cultivating Islamic moderation in pesantren? iii) How is the impact of Maktabah Syumilah NU 1.0 in Islamic moderation in pesantren?

2.   METHOD

This research is descriptive qualitative through a case study approach in 10 traditional pesantren in Temanggung Regency, Central Java, Indonesia using Maktabah Syumilah NU 1.0 computer software and applications. The research was conducted from August to December 2021. The qualitative research format was shown to explain, conclude the conditions or symptoms of social reality, and try to draw truth to the surface as a character, model, or description of a disease or phenomenon related to digital learning with Maktabah Syumilah NU 1.0. This research collects and analyzes data in the form of words and human actions and does not try to calculate the data that has been obtained [61]–[63] related to digital learning, usage, and the impact of Maktabah Syumilah NU 1.0 computer software and applications in Islamic moderation in pesantren.

In this research, researchers collect, analyze in depth, and present data in the form of text and images. The data in this research is divided into primary and secondary data through observation and in-depth interviews [64]–[66]. Primary data were obtained through in-depth interviews and observations with *kiai*, caregivers, pesantren learning system managers, and the Maktabah Syumilah NU 1.0 application. Secondary data was obtained from observations, documents, and interviews with the Head of the Early Childhood and Islamic Boarding School Education Section of the Ministry of Religious Affairs of Temanggung Regency, Rabithah Ma'ahid Islamiyah Nahdlatul Ulama (RMI NU), and other stakeholders. The primary and secondary data were revealed to explore digital learning, features, utilization, and the impact of Maktabah Syumilah NU 1.0 computer software and applications in Islamic moderation in pesantren. Data on digital learning, usage, and the effects of Maktabah Syumilah NU 1.0 computer software and applications in Islamic moderation in pesantren are then analyzed and presented in the form of writings and images according to research findings.

3.   RESULTS AND DISCUSSION
3.1.   Digital learning through Maktabah Syumilah NU 1.0 software and computer application

The Maktabah Syumilah NU 1.0 application (Al-Maktabah Syumila NU Fiiha) is used in digital learning activities in and outside the pesantren through laptops connected to the internet, Wi-Fi, and Android. In the initial stage, students prepare a computer and install the Maktabah Syumilah NU 1.0 application freeware. To get the application installer, students can buy applications through e-commerce or download them on several websites and blogs, such as through the URL (*https://bit.ly/MaktabahSyumilahNU10*) for 9 GB. The application installation can be done by downloading the installer in Windows and then installing it according to the instructions. Once installed, the application is ready to be used in digital learning. Maktabah Syumilah NU 1.0 is used as an application for learning by students to search for books, arguments, and laws in studying the Quran, Al-Hadis, Fiqh (Islamic Jurisprudence), Aqidah (Islamic theology), Akhlaq (Islamic Ethics), and Tasawuf (Sufism) material. They utilize several features of Maktabah Syumilah NU 1.0, which is shown in Figure 1. The application has three main homepages, namely i) Kitab Ulama Nusantara (The Books of Scholars of Indonesia Archipelago), containing a collection of pesantren' books and shortcuts to ii) Al-Maktabah Al-Syamilah, and iii) Pustaka Ilmu Sunni Salafiyyah - Mengapa Takut Bid'ah (PISS-KTB or Sunni Salafiyyah Science Library - Why Are You Afraid of Bid'ah). Each homepage has shortcuts that direct users to thousands of books and articles according to category. In addition to thousands of books, this application is equipped with audio files of the call to prayer, and recitations of the Quran.

The three views automatically appear on the computer desktop after installation. On the first homepage, Kitab Ulama Nusantara, titled Al-Maktabah Syumila NU Fiiha, there are seven shortcuts containing

books according to their categorization. The rest of the shortcuts have the decisions of the *Bahtsul Masail* (a scientific discussion forum that discusses problems for which there is no evidence or the solution has not been found) of Nahdlatul Ulama results and several shortcuts supporting the operation of the application. The second homepage, Al-Maktabah Al-Syamilah*,* contains content from the Maktabah Syamilah application that has been modified while maintaining the original content's design, features, and categorization. The third homepage is PISS-KTB, which contains articles discussing the study or questions and answers to various Islamic issues into 35 categories according to specific topics and disciplines. Maktabah Syumilah NU 1.0 is also used by students in searching for compilations of e-books, yellow books, and Islamic articles consisting of various fields such as Akhlaq, Fiqh, Nahwu (Syntax), Saraf (Linguistics), Tawhid (Beliefs in Oneness of God), Tasawuf, Tajweed (set of rules in reading/reciting Quran) which are technically equipped with Arabic keyboards and Arabic-Indonesian dictionaries. All homepages are fitted with a search feature that makes it easy to find content, which can be seen in Figure 1.

Figure 1. Main view of Maktabah Syumila NU 1.0 application

The Maktabah Syumilah NU 1.0 application in digital learning has several characteristics. First, the app's design represents the treasures of traditional pesantren that refer to the works and thoughts of more moderate Indonesian scholars by integrating religion, science, and culture. Secondly, the content of the app is rooted in Indonesia's distinctive Islamic treasures, such as thousands of Bahtsul Masail of Nahdlatul Ulama (Study Institute of the Nahdlatul Ulama Organization) and Indonesian Council of Religious Scholars (MUI) fatwa collections, pesantren' yellow books, and translations of various *pethuk* books (yellow books that have been given *gandul/*doubles meanings). Third, this application presents a particular library directory themed "*Siyasah* and Nationality*,*" which contains literature and articles on political concepts in Islam. This content provides *santri* (student of pesantren) with an understanding of the concept of a democratic nation and state accompanied by good arguments from *turats* (Islamic treasury references).

Maktabah Syumilah NU 1.0 in digital learning individually or groups in traditional pesantren is relatively new. This is because students in modern and integrated pesantren rarely use this application. The presence of Maktabah Syumilah NU 1.0 is a new thing because it is beneficial for *santri* in learning by utilizing digital technology, because so far, learning in traditional pesantren is still conventional and not optimal in using ICT, applications, and digital software [67]–[69]. This is a new thing, especially since in Maktabah Syumilah NU 1.0*,* there are 41 books, each of which varies from tens to hundreds of Arabic texts.

3.2. The use of Maktabah Syumilah NU 1.0 in cultivating Islamic moderation in pesantren

The Maktabah Syumilah NU 1.0 application is used in learning (*ngaji*) through the *bandongan* (learning method in which students follow the lesson by sitting around the teacher who is explaining the lesson) system with *kiai* or *santri* when the representative teaches on the material of Akhlaq, Fiqh, Nahwu, Saraf, Tawhid, Tasawuf, and Tajwid. Meanwhile, students do not use the application when learning the *sorogan*

(teaching and learning system where students read the books being studied). Apart from learning or *bandongan* recitation, students also use this application to find literature during discussions (*halaqah*) to discuss specific themes according to the basis of the books available in Maktabah Syumilah NU 1.0. *Santri* also studies the book privately (*muthala'ah*) outside of congregational learning time (*ngaji*).

In addition to digital learning for *santri*, Maktabah Syumilah NU 1.0 is also used when *santri* or *kiai* receive invitations to give lectures, discussions, or recitations. They install the application on laptops and devices that are opened when reading literature sources as the discussion material. This application is also used in *Bahtsul Masail*, which is routine every six months or when an urgent situation is concerned. At that time, it was easy for students or *kiai* to find reference sources in Maktabah Syumilah NU 1.0 to solve religious, cultural, social, and political problems. They can easily search for traditional yellow Islamic sources through the application rather than through thick and ineffective yellow Islamic classic books. For example, the discussion process by utilizing Maktabah Syumilah NU 1.0 can be seen in Figure 2.

Figure 2. Using the Maktabah Syumilah NU 1.0 application in discussion activities (*halaqah*)

This application explicitly helps digital learning and media to instill the teachings of Islam of *Ahlussunnah Waljamaah*, which is substantially the same as Islamic moderation because it mainstreams Islam that is friendly, tolerant, peaceful, just, and in the middle. This is by research that mentions that learning the Quran and the Sunnah with digital literacy skills and the use of ICT in pesantren can increase *santri* understanding of Islamic moderation, which has an impact on being fair, friendly, accommodating local traditions, realizing peace in society, modern, and inclusive (open and tolerant) [48], [70]–[72]. Maktabah Syumilah NU 1.0 in digital learning in pesantren and outside pesantren guarantees users access to books that do not contain radicalism. All features in the application guarantee that *santri* and users at large will not access, read, and teach radicalism.

3.3. The impact of Maktabah Syumilah NU 1.0 in Islamic moderation in pesantren

In three years, digital learning with Maktabah Syumilah NU 1.0 in 10 traditional pesantren in Temanggung, Indonesia, information was found related to the short-term impact of strengthening Islamic moderation in pesantren on *santri* with several indicators. First, it awakens the spirit of Islam and the state without having to make efforts to purify Islam. This is reinforced because this application contains books by Indonesian scholars, both traditional and contemporary eras, which include national insights such as the concept of the nation-state and love for the country according to Islam. Second, in Bahtsul Masail*, santri* learns dialectically through scientific, logical debate and references from books from the Maktabah Syumilah NU 1.0 application. Therefore, this application encourages strengthening Islamic moderation in *santri* through a scientific process. One of the features provided in this application is PISS-KTB which contains e-books of questions and answers about religious issues that are often asked by the public.

The subsequent impact is that *santri* are literate in religious literacy through digital learning with Maktabah Syumilah NU 1.0. This is evidenced by the selection of books that are worth reading and those that are not. *Santri* can filter books with radical ideological elements because the Maktabah Syamilah feature has been known as the complete digital book reference. However, it contains references to Wahabism that tend to be radical and extreme. These teachings are not by Indonesian political and cultural views because the books were written and influenced by the situation of countries in the Middle East that are less tolerant of the diversity of madhhabs in Islam. Maktabah Syumilah NU 1.0 is designed to filter out such content. Instead, books from

the Shafi'iyah, Hanafiyah, Maliki, and Hambali schools of thought in various disciplines are included. *Santri* can understand the diversity of opinions in Islam and not fall into truth claims that are anti-diversity of religious views. Figure 3 shows an example of radical content in the Maktabah Syamilah application (Arabic text blocked in black), which in meaning explains "it is permissible to kill people who practice *bid'ah/*heretic" (see the black-blocked text in the figure).

The subsequent impact is the strengthening of Islamic moderation in a persuasive manner. This application presents the yellow books of pesantren that have been grouped according to disciplines with a search shortcut feature that makes it easy for users to find certain narratives by entering keywords. These books are standard references in the pesantren of Ahlussunnah Waljamaah that have undergone a selection and adaptation process by the founders of pesantren in Indonesia. Digital learning through applications containing these books has been proven to ward off the influence of extreme and radical religious views and has the potential to give birth to intolerance and terrorism. The four impacts above are very relevant to a theory that states that religious ideology is strongly influenced by digital-based learning, the internet, and digital media [73]–[75]. When affected by technology, a religious doctrine will form a specific culture. When technology teaches radicalism, violence, and vandalism, the particular culture tends to be radical. Conversely, when technology is used as a tool for learning that instills moderation, a middle-way religious view that is tolerant, fair, and balanced, the specific culture will also be moderate.
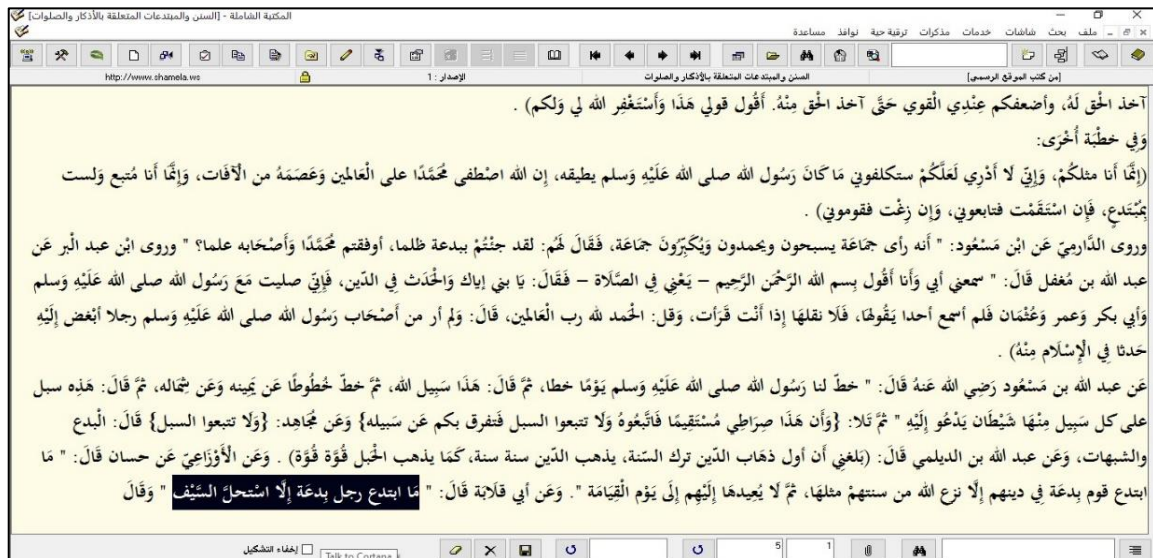

Figure 3. Search results for the content of extreme views on the permissibility of killing the perpetrators of heresy (*bid'ah*)

4.   CONCLUSION

Digital learning through Maktabah Syumilah NU 1.0 is conducted in 10 traditional pesantren in Temanggung, Indonesia, through various activities. *Santri* use laptops connected to the internet, Wi-Fi, and Android to access the books to study in Maktabah Syumilah NU 1.0. The use of Maktabah Syumilah NU 1.0 is used to instill Islamic moderation through learning with *bandongan* and *sorogan* methods, used as a learning resource during discussion forums, recitation, and Bahtsul Masail. The restraint of Islam in question is the character of Islam that is friendly, tolerant, peaceful, just, and in the middle, which is principally provided in the books that contain Islam of Ahlussunnah Waljamaah in the application. The use of Maktabah Syumilah NU 1.0 has an impact on strengthening Islamic moderation in pesantren. *Santri* are more literate in religious literacy, awakening the spirit of Islam and the state, awakening the heart of Islamic moderation through a directive and persuasive process. The researcher recommends that the Office of the Ministry of Religious Affairs make a policy of implementing Maktabah Syumilah NU 1.0 into digital learning in traditional pesantren, modern pesantren, and integrated pesantren, especially in Temanggung, Indonesia, there are 160 pesantren, and 120 pesantren are affiliated with Nahdlatul Ulama and Islam of Ahlussunnah Waljamaah, 75% of pesantren are traditional types that are limited in using computers as a vehicle for digital learning. Future researchers must explore digital learning through the latest applications more deeply to strengthen Islamic moderation in pesantren.

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