YELLOW ISLAMIC CLASSIC BOOK LEARNING MODEL BASED ON INFORMATION AND COMMUNICATION TECHNOLOGY IN PESANTREN

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ABSTRACT

Learning yellow books in Islamic boarding schools is one of the main pillars in strengthening the tradition of classical Islamic knowledge. However, the challenges of the digital era require innovation in learning methods, including the integration of information and communication technology (ICT). This study aims to examine and develop an ICT-based yellow book learning model that is in accordance with the characteristics of Islamic boarding schools. This study uses a qualitative approach with the type of research applied being library research. Data collection techniques include observation, in-depth interviews, and documentation, which are analyzed thematically. The results of the study indicate that the use of ICT, such as digital interpretation applications, PDF versions of yellow books, and online learning platforms, can increase the effectiveness of students' understanding of the contents of the book, accelerate the learning process, and facilitate interactive discussions between teachers and students. However, the success of implementing this model is highly dependent on the readiness of infrastructure, digital competence of teachers, and support from Islamic boarding school policies. This study recommends the development of an ICT-based adaptive curriculum and continuous teacher training as part of the digital transformation of Islamic boarding schools.
Keywords: *Learning Models, Yellow Books, Information & Communication technology, Islamic Boarding School learning.*

INTRODUCTION

Islamic boarding schools are the oldest Islamic educational institutions in Indonesia that have played a central role in the character building and scientific development of Muslims. One of the main characteristics of Islamic boarding *schools* is the tradition of learning the yellowclassical books (*kitab kuning*), which are classical books in Arabic language (without harakat) which are the main reference in the study of fiqh, tawhid, tasawuf, tafsir, and hadith. These books are not only a source of knowledge, but also part of the Islamic intellectual heritage that has been passed down from generation to generation (Zarkasyi, 2010). Learning the yellowIslamic classic books requires a deep understanding of the Arabic language, reading methodology (*qawaid nahwu-sharf*), as well as a contextual approach that is able to relate the content of the books to today's socio-religious realities.

However, in the era of the Industrial Revolution 4.0 and the fast-paced digital transformation, pesantren face great challenges in maintaining the relevance of the yellowclassical learning method (Awaluddin, 2024). Millennial and post-millennial generation students have different characteristics from previous generations. They were born and grew up in a digital environment, familiar with electronic devices, and accustomed to accessing information instantly through the internet. Meanwhile, the yellowIslamic classic book learning method, which is still dominated by the conventional *sorogan* and *bandongan* approaches, is often considered monotonous, slow, and less adaptive to the learning styles of the new generation (Fikri, 2025).

This gap between tradition and technological development raises concerns about the effectiveness of yellowIslamic classic book learning. Some pesantren have begun to try to innovate learning by using digital media, such as the use of digital books, Arabic-Indonesian dictionary applications, and online platforms such as Google Classroom or Zoom. However, these efforts are still sporadic and do not have a structured, systematic learning model that is in accordance with the characteristics of pesantren (Tamsir, 2020). In this context, it is important to design an Information and Communication Technology (ICT)-based yellowIslamic classic book learning model that is able to bridge tradition with modernity, and increase santri absorption of learning materials.

The urgency of this research is increasingly relevant given the direction of national policies that encourage digital transformation at all levels of education, including religious education. The government through the Ministry of Religious Affairs has propagated the digitalization program of madrasah and pesantren as part of efforts to improve the quality and competitiveness of Islamic education institutions. On the other hand, the COVID-19 pandemic that has hit Indonesia since 2020 has accelerated the adoption of technology in teaching and learning activities, including in pesantren. This experience opens up new opportunities and awareness about the importance of technology integration in learning, including for yellowIslamic classic book materials that have been considered difficult to digitally modify (Musthofa, 2021).

The rationalization of this research activity lies in the need to develop an ICT-based kitab kuning learning model that not only utilizes digital devices as tools, but is also able to internalize pesantren values and maintain the scientific authority of the kitab. This model is expected to be a solution to the stagnation of kitab learning, while optimizing the potential of digital natives owned by today's santri. In addition, this learning model is also expected to be able to support the achievement of pesantren education goals which include cognitive, affective, and psychomotor aspects in a balanced manner.

The purpose of this study is to design, implement, and evaluate an ICT-based yellowIslamic classic book learning model in a pesantren environment. Specifically, this research aims to: (1) identifying the needs of kitab kuning learning in the digital era, (2) developing an integrative learning model design between kitab content and technology, and (3) assessing the effectiveness of the implementation of the model in increasing santri understanding and participation.

To support the theoretical basis and strengthen the direction of the research, a literature review was conducted on several relevant studies and theories. First, Vygotsky's (1978) theory of social constructivism emphasizes the importance of social interaction in the learning process, which is relevant to the context of yellow book learning based on deliberation and discussion. Digital technology can be a bridge in expanding this interaction through online forums, digital collaboration and interactive discussion platforms.

Second, the multimodal learning theory developed by Kress and van Leeuwen (2001) explains that students' understanding increases if the material is delivered through various modes, such as text, audio, visual, and interactive. YellowIslamic classic book learning that has been very textual can be increased in effectiveness by including audiovisual elements, such as book explanations through videos, grammatical diagrams, and animations of fiqh concepts.

Third, research by Rahmawati (2020) shows that santri who take yellowIslamic classic book classes through digital media experience increased learning motivation and active participation, especially when the teaching and learning process is carried out with a collaborative approach and responsive digital media utilization. However, obstacles such as limited devices, low digital literacy, and resistance of some teachers to technology are challenges that need to be overcome (Rahmawati, 2020).

Fourth, a study by Azizah (2021) on the digitalization of pesantren in East Java suggests that the use of digital kitab, e-modules, and learning videos can accelerate the process of understanding kitab material, but still requires a comprehensive learning model guide so as not to lose the typical values of pesantren, such as *adab* towards teachers and respect for scientific authority (Azizah, 2025).

Fifth, the results of research conducted by Imran (2023) in several pesantren show that the integration of ICT in learning can increase santri's interest in learning if it is adapted to local characteristics and carried out gradually. They suggested the importance of teacher training as well as the active involvement of pesantren managers in the digital transformation process (Imran, 2023).

In addition, a *blended* learning-based approach that combines face-to-face learning with online learning is a potential alternative to be applied in pesantren. This model allows the strengthening of direct interaction in *halaqah* kitab while utilizing the flexibility of accessing digital materials outside the classroom. In this context, technology functions not as a substitute for teachers, but as a supporting tool that enriches the learning experience of santri (Muchasan, 2024).

Thus, this research positions itself within the framework of developing learning models that are contextual, adaptive, and innovative. The development of the ICT-based yellowIslamic classic book learning model is not only a response to the modernization of education, but also a form of pesantren's efforts in maintaining the existence and sustainability of the Islamic scientific tradition in the midst of changing times.

RESEARCH METHODS

This research uses a qualitative approach with the type of research applied is *library research*. Library research is a type of research that relies on data collection techniques through searching various literature sources that have relevance and relevance to the research topic (Evanirosa, 2022). Kartini Kartono explained that the literature technique is a research method carried out by reading, studying, and recording various sources of literature or reading materials related to the problem under study, then filtered and arranged in a theoretical framework (Kartono, 1980). Therefore, it can be concluded that relevant references are indispensable in this research, because theoretically they are the main source in exploring, interpreting, and formulating conclusions from the results of the research conducted.

RESULTS AND DISCUSSION

Pesantren as the oldest Islamic educational institution in Indonesia has a distinctive teaching system and teaching materials, one of which is the learning of yellowclassical books. The yellowIslamic classic book is the work of classical scholars who are the main source in the study of Islamic sciences, especially in the fields of fiqh, tawhid, Sufism, and Arabic. However, in the midst of the rapid development of information and communication technology (ICT), the teaching of the yellowIslamic classic book faces new challenges, especially in integrating traditional learning methods with digital-based approaches (Saini, 2024). This transformation is not just a technical issue, but also involves cultural readiness, infrastructure, human resource competencies, and curriculum adaptation.

One of the main challenges in ICT-based yellowIslamic classic book teaching is the limited infrastructure in the pesantren environment. Many pesantren, especially those in rural or remote areas, do not have adequate supporting facilities such as a stable internet network, computer or tablet devices, and classrooms equipped with multimedia technology. Based on data from the Ministry of Religious Affairs in 2024, only a small number of pesantren have implemented digital-based learning optimally (Ministry of Religious Affairs, 2024). This condition causes an imbalance between pesantren that have digitized and those that still use conventional methods. Even in some pesantren, electricity is not yet evenly available, making the use of ICT-based devices impossible.

Apart from infrastructure, another major challenge lies in the low level of digital literacy among pesantren educators. The ustaz and kiai who have been teaching the yellowIslamic classic books generally come from a traditional educational background with minimal exposure to technology. They are accustomed to using *sorogan*, *bandongan*, or *halaqah* methods that emphasize direct interaction between teachers and students. Therefore, their mastery of educational software, presentation media, and digital learning platforms is still very limited. In Sabaryati's research (2018), it was mentioned that more than 60% of pesantren teachers have never attended training related to the use of ICT in learning. This complicates the process of adopting technology as a tool in delivering kitab kuning material (Sabaryati, 2018).

Another problem that is no less important is the cultural and psychological aspects. Pesantren have a strong tradition that has been going on for generations. Learning the yellowIslamic classic book is considered a sacred process that requires high manners, from how to sit, how to listen, to how to speak. In this tradition, the yellowIslamic classic book is not only a source of knowledge, but also a symbol of blessing and scientific heritage of the scholars. Therefore, efforts to integrate technology are sometimes considered a form of secularization or even commercialization of knowledge, which can reduce the *spiritual* value of learning. Some pesantren even still prohibit the use of gadgets in the pesantren environment because it is considered a source of distraction and potential entry of negative influences from outside.

This resistance to change shows that digital transformation in pesantren cannot only rely on a technological approach, but must also consider a cultural approach. According to the results of Iswanto's research (2020), acceptance of innovation in pesantren is highly dependent on authoritative figures such as kiai or pesantren caregivers (Iswanto, 2020). If the caregiver provides support for technology integration, then changes will be more easily accepted by teachers and students. However, if there is no blessing from the leadership, then technological innovation often stagnates at the concept level or pilot programs only.

The next challenge is the limited digital learning resources that match the characteristics of the yellowIslamic classic books. The yellowIslamic classic books are written in bare Arabic (without harakat), so they require direct assistance in reading them. In addition, these classic texts use complex language styles and classic Arabic socio-cultural contexts that are not easily understood by novice students. Therefore, efforts to digitize the yellowIslamic classic book are not enough just to scan the book into PDF format or provide an e-book. An application is needed that is equipped with interactive features such as automatic harakat, term interpretation, nahwu and sharaf structures, and audio explanations directly from the teacher. Unfortunately, most existing applications such as *Maktabah Syamilah* or *Al-Maktabah Al-Waqfiyyah* do not provide these features comprehensively and are often more suitable for advanced users.

In terms of curriculum, there is no standardization or systematic integration between yellowclassical book materials and digital learning methods. Each pesantren tends to develop its own curriculum independently, in accordance with its traditions and scientific specialization (Alfathon, 2022). As a result, the implementation of ICT in yellowclassical book learning becomes sporadic and unstructured. Pesantren that have sufficient resources can develop e-learning platforms, while pesantren that do not have the capacity can only rely on conventional methods. This inequality widens the gap in education quality between pesantren.

In addition, the mental readiness and motivation of santri is also a challenge. Although santri belong to the digital native generation who are accustomed to using gadgets, not all have the habit of utilizing technology for learning purposes. Most are more interested in using cellphones to access social media, online games, or entertainment content. Without guidance and control, the use of ICT can actually potentially reduce learning concentration and add distraction to the process of teaching the

yellowclassical book. Therefore, technology integration must be accompanied by strengthening character education and correct learning motivation (Hasanah, 2022).

Another problem that often arises in teaching ICT-based yellowclassical books is the lack of technical personnel or IT staff in the pesantren environment. The use of technology requires system management and maintenance, ranging from device installation, network management, to troubleshooting. Unfortunately, not all pesantren have staff who are able to handle this. As a result, many devices or applications that have been purchased become unused because no one is able to operate them optimally.

Overall, the challenge of teaching ICT-based yellowclassical books in pesantren is not just a technical problem, but a multidimensional problem that involves aspects of infrastructure, human resources, institutional culture, curriculum readiness, and learner readiness. Therefore, the solutions offered must be holistic and contextual. There is a need for synergy between the government, academics, pesantren institutions, and educational technology developers to formulate a yellowclassic teaching model that combines traditional advantages with technological advances. (Ahyani, 2023)

In the short term, pesantren can adopt a *blended learning* model, which is to maintain the direct teaching method while slowly introducing digital media as a complement. For example, teachers can use book study videos, interactive learning applications, or online platforms to strengthen mastery of the material. At the same time, the government and Islamic education partner institutions need to provide digital literacy training for pesantren educators on an ongoing basis. The digitization of the yellowIslamic classic books must also be carried out professionally by involving scholars, Arabic language experts, and technology developers in order to produce products that are suitable for learning needs.

Moreover, digital transformation in yellowclassical book learning must remain grounded in the noble values of pesantren (Rifah, 2023). Technology must be interpreted as a means, not an end. It is present to strengthen the Islamic scientific tradition, not replace it. Therefore, it is important to maintain a balance between innovation and tradition, between modernity and spirituality, and between effectiveness and blessing. With this approach, pesantren will be able to adapt to the times without losing its identity as a center of knowledge, manners, and morality.

ICT-Based YellowIslamic Book Learning Model in Pesantren

The development of information and communication technology (ICT) has had a major impact in various aspects of life, including the world of education. Pesantren as a traditional Islamic educational institution is historically known for its classical learning methods in studying the yellowclassical books (Rifah, 2023). The yellow book is the main reference in the Islamic scientific tradition in pesantren written in Arabic without harakat, with the content of fiqh, tafsir, tawhid, nahwu, sharaf, and other Islamic sciences. The teaching of these books is usually done through sorogan, bandongan, and halaqah methods. However, in today's digital era, there is a need to design a more

adaptive yellowclassic learning model, without eliminating the traditional values of pesantren, but at the same time utilizing the potential offered by technology.

The ICT-based yellowclassic learning model does not mean replacing the role of teachers or kiai, but rather developing teaching methods to be more effective, efficient, and reach students with more varied learning styles. One of the relevant learning model approaches is *blended* learning, which is a combination of face-to-face learning with the use of technology as a supporting medium. In the context of pesantren, this method allows students to continue participating in direct book studies with kiai, while at the same time obtaining additional access in the form of video recordings of recitations, mobile applications for reading books, or online discussion forums between students (Mukhid, 2023). This model has been proven to be able to maintain traditional values while responding to the dynamics of the times.

The ICT-based yellowIslamic classic book learning model can begin with the digitization of materials. Classic books that were previously only available in printed form can now be accessed through digital platforms such as PDF, e-book, or Android and iOS-based applications. This digitization allows students to access the text of the book anytime and anywhere. Some developers have even added features such as keyword search, word interpretation, and automatic harakat embedding. This feature is very helpful for beginner students in understanding the complex structure of the Arabic language. For example, applications such as *Maktabah Syamilah*, *Al-Maktabah Al-Waqfiyyah*, and *Qamus Arabic-Indonesian* have been widely used by academics and pesantren students in accessing classical Islamic literature practically.

However, book digitization is not enough. A pedagogical approach that fits the context of pesantren learning is needed (Umam, 2024). One model that has begun to be implemented in some pesantren is the creation of yellowIslamic classic book learning videos by kiai or ustadz that are recorded and disseminated through platforms such as YouTube, Google Drive, or the local Learning Management System (LMS). These videos can be arranged based on certain chapters or themes from the kitab, with explanations accompanied by visualizations such as running text, nahwu-sharaf diagrams, or word-by-word translations. This method helps santri who have difficulty in understanding the material when they are outside the taklim assembly or under certain conditions such as the COVID-19 pandemic which has limited face-to-face learning.

In addition, ICT integration also allows for collaborative and interactive learning of the yellowIslamic classic book (Muchasan, 2024). Platforms such as Google Classroom, Edmodo, and Moodle can be used to build online discussion spaces between students and teachers. In this space, students can ask questions, discuss, and provide responses to the understanding of the text that has been studied. This opens up opportunities for a dynamic scientific dialog that is not limited by time. Teachers can upload text comprehension questions, provide direct feedback, and monitor the development of santri understanding more objectively. Learning is no longer one-way, but becomes a participatory space that involves all parties.

In developing an ICT-based yellowclassic learning model, the role of the teacher or kiai remains central. Teachers not only function as material deliverers, but also as

facilitators, motivators, and directors in the ethical use of technology. Therefore, training and increasing teacher competence in the use of ICT is very important. Mesran's research (2024) shows that the success of ICT integration in pesantren is highly dependent on the readiness of teachers in using technology as a teaching medium (Mesran, 2024). In this case, pesantren institutions need to organize periodic training on the use of learning applications, digital content creation, and basic digital literacy for teachers.

In the context of the curriculum, ICT-based learning models must be systematically integrated into the structure of yellowIslamic classic book learning. This means that each kitab material taught must have a digital version or an adapted form that supports the online learning process. For example, during the recitation of the book of *Fathul Qarib*, teachers can share PDF links, accompanied by explanatory videos and comprehension questions in the form of online quizzes. This model requires careful learning planning, starting from the selection of materials, media development, to the evaluation of santri learning outcomes.

Evaluation is also an important part of this model. Technology can be used to develop online evaluation instruments in the form of objective tests, interactive quizzes or writing assignments. Evaluation can be done using applications such as Google Forms or Quizizz, which allow for automatic and quick assessment. The evaluation results not only show the students' mastery of the text, but also the effectiveness of the media used. Teachers can periodically reflect on the methods and tools used to continuously improve the quality of learning.

In terms of santri learning motivation, the use of ICT in yellowclassical book learning has a positive impact. Santri become more interested and enthusiastic about learning because the material is presented with a more interesting and varied display. Visual and audio content also facilitate understanding, especially for students who have auditory or visual learning styles (Muhibbah, 2024). Santri involved in kitab learning using video media and applications show an increase in understanding compared to conventional learning. This shows that the use of ICT is not just a complement, but also able to become a reinforcement in the process of internalizing knowledge among santri.

However, it is important to note that the development of an ICT-based yellowIslamic classic book learning model must still be based on pesantren values. Technology integration should not shift the aspects of spirituality, morals, and manners that characterize pesantren education. Therefore, the development of this model must prioritize the principle of balance between technology and tradition. Technology is present as a tool, not a substitute for the role of teachers or the noble values of pesantren. In practice, the use of ICT must remain under the supervision of teachers so that it is not misused and remains on an educational and enlightening path.

Overall, the ICT-based kitab kuning learning model in pesantren is a progressive step that requires readiness from various aspects: human resources, infrastructure, curriculum, learning media, and evaluation. Its success is highly dependent on the synergy between teachers, santri, pesantren managers, and support from the government and other Islamic education institutions. In the long run, this model is

expected to be able to answer the challenges of the times while maintaining the continuity of the pesantren scientific tradition which has been proven to contribute greatly to the character and intellectual formation of Muslims in Indonesia.

Pesantren have great potential to become pioneers in digital-based Islamic education innovation if they are able to develop adaptive, creative, and contextual yellowclassic learning models. By upholding the values of adab and classical knowledge, pesantren can make ICT a strategic partner in expanding access, deepening understanding, and accelerating the intellectual transformation process of santri. Thus, the ICT-based yellowclassical book learning model is not only a technical necessity, but also part of the effort to re-ground the spirit of *tafaqquh fi al-din* in the digital era.

Effectiveness of Information & Communication Technology in Learning Kitab Kuning in Pesantren

The development of information and communication technology (ICT) has brought significant transformation in various aspects of human life, including in education. The world of education has undergone a major revolution with the presence of digital devices, the internet, and online learning platforms that can improve the quality and accessibility of education. In the context of Islamic education, especially in pesantren, ICT integration has become a strategic issue that is increasingly important to be studied in depth, especially in the learning of the yellowIslamic classic book, which is the core of the pesantren scientific tradition (Yusuf, 2025).

The yellowIslamic classic literature in Arabic (without harakat) contains various disciplines, such as fiqh, tafsir, akidah, tasawuf, nahwu, and balaghah (Alfinur, 2024). The uniqueness of the yellowIslamic classic book lies in its method of understanding which requires grammatical ability of the Arabic language, as well as traditional teaching methods such as bandongan, sorogan, and wetonan. These methods are oral-transmisional, which makes the role of kiai or ustadz very dominant in conveying the contents of the book to santri. However, in the midst of advances in digital technology, the question arises as to how effectively information and communication technology can be integrated into yellow book learning without losing the essence and richness of its traditions.

The effectiveness of ICT in learning kitab kuning can be seen from several main aspects, namely increasing access to material, ease of understanding the text, time efficiency, and increasing santri learning motivation. In terms of access, ICT allows students and teachers to obtain various versions of the yellowclassical textbook digitally. Applications such as Maktabah Syamilah, Lidwa Pustaka, and Al-Maktabah Al-Waqfiyah provide thousands of classic books that can be accessed easily through digital devices. This makes it easier to find references and allows for quick comparisons between books. Previously, students had to rely on physical printed collections which were limited in number and often difficult to obtain due to cost and distribution constraints.

The ease of understanding the text is also a major advantage of using ICT in yellowIslamic classic book learning. In the conventional learning tradition,

understanding the text of the yellowIslamic classic book is often a major obstacle for novice students. With the support of ICT, software and applications are available that are able to provide automatic translation, text harakatization, and interactive interpretation features. Santri can use applications such as Nahwu Shorof Digital, the electronic Arabic-Indonesian Dictionary, and the word search feature in Al-Qamus or Lisan al 'Arab to help understand vocabulary and language structures. This is very helpful for the self-learning process, where santri can explore the meaning more widely and are not entirely dependent on the teacher's explanation.

Time efficiency is also an important aspect of ICT integration. In traditional methods such as bandongan, the learning process takes a long time because students wait for their turn or have to follow the teacher's reading in its entirety. However, with ICT, this process can be done flexibly. Santris can access recordings of recitations, videos of book explanations from scholars in different parts of the world, or interactive modules that allow them to learn at their own pace. Even in the midst of the COVID-19 pandemic, ICT integration allows pesantren to continue the online teaching and learning process through platforms such as Zoom, Google Meet, and YouTube Live. This shows that ICT can act as a bridge between tradition and modernity, especially in emergency situations.

However, the use of ICT in yellowIslamic classic book learning is not without challenges. One of the main concerns is the possibility of erosion of the values of adab, the blessing of knowledge, and the spiritual relationship between santri and kiai which characterizes pesantren education (Wirayanti, 2024). In the teaching of the yellowclassical books, not only cognitive aspects are transmitted, but also moral, spiritual, and moral values obtained through direct interaction with the teacher. The digitalization model tends to emphasize the information aspect, not character transformation (Houtman, 2017). Therefore, the effectiveness of ICT must be measured not only from the knowledge aspect, but also from its contribution in maintaining the traditions and values of pesantren.

In addition, there are technical challenges such as infrastructure limitations, digital capabilities of santri and teachers, and curriculum readiness to integrate ICT in yellowclassical book learning. Not all pesantren have adequate internet facilities or enough digital devices for all students. On the other hand, not all teachers have the digital literacy skills to use learning applications optimally. There are still many kiai and ustadz who are technology illiterate and more comfortable with conventional teaching methods. Therefore, special training and mentoring is needed for pesantren educators so that they can master ICT and adapt it to traditional methods.

Furthermore, in measuring the effectiveness of ICT, there needs to be a comprehensive evaluative approach, including cognitive (mastery of material), affective (attitude towards learning), and psychomotor aspects (practical ability to understand the text). Several studies have shown that the use of digital media can increase santri's interest and participation in understanding the yellowclassical books. For example, research by Ashari, (2023) shows that the use of e-learning in fiqh learning in one modern pesantren increases the active participation of students (Ashari, 2023). Another study by Khairati & Septi Najmi (2023) noted that the use of

digital tafsir applications can accelerate the process of understanding legal verses in maudhui tafsir studies (Khairati, 2023).

However, this effectiveness is also highly dependent on the pedagogical approach used. If ICT is only used as a passive tool (such as displaying PDF books on a projector screen), then its impact will be limited. But if ICT is strategically integrated in active learning models, for example through online discussions, digital book analysis assignments, or the development of scientific vlogs by santri, then the impact will be much more significant. Therefore, teachers must have digital instructional design skills in order to utilize ICT not only as a medium, but as a catalyst for learning transformation.

In the context of salaf pesantren, which highly uphold the oral tradition and scholarly sanad, the use of ICT is often considered foreign and even threatening. However, it needs to be emphasized that ICT is not a substitute for tradition, but rather a complement. Santri can still attend book recitations directly with the kiai, but are supported by digital materials that can enrich understanding. A wise approach is to combine traditional methods (sorogan, bandongan) with digital media as a support, not a replacement. This will maintain the authenticity of the tradition while opening access to the digital world that is relevant to the needs of the times.

ICT also enables collaboration across pesantren through digital platforms. Pesantren can share teaching materials, recitation recordings, or book discussion forums involving santri and kiaiKiyai from various regions. This forms a broad and dynamic digital scientific ecosystem of pesantren. For example, online halaqah activities initiated by digital kitab kuning communities such as Bathul masail are able to bring kiai from abroad to discuss classic texts such as *Ihya' Ulumiddin*, *Al-Muwaththa'*, or *Al-Hikam*. This opens the santri's horizons and enriches the scientific perspective that was previously limited by the physical space of the pesantren.

In terms of learning independence, ICT provides space for santri to develop *lifelong* learning habits. They can form online learning communities, upload lesson notes to blogs or YouTube channels, and create digital works based on classical books. This provides an opportunity for santri to not only be recipients of knowledge, but also producers of scientific content. That way, pesantren are not only consumers of technology, but also transformed into producers of values and knowledge in the global digital ecosystem.

In conclusion, the effectiveness of ICT in learning the yellowIslamic classic book in pesantren is highly dependent on the way its integration is carried out. ICT is not just a visual aid, but must be positioned as a pedagogical instrument that strengthens the internalization process of knowledge, manners, and spirituality. Effective use of ICT requires readiness in terms of infrastructure, teacher competence, curriculum readiness, and policy support from pesantren managers. The biggest challenge is not the technology itself, but how the pesantren's distinctive values can be preserved amidst the wave of digitalization. If managed wisely, ICT can actually be a means to expand the reach and deepen the quality of yellowIslamic classic book learning, as well as bridging pesantren with the dynamics of an ever-changing era.

CONCLUSION

Based on the results and discussions that have been carried out, it can be concluded that the Information and Communication Technology (ICT)-based yellowIslamic classic book learning model in pesantren is a pedagogical innovation that is able to integrate traditional values with technological advances harmoniously. The use of ICT in yellowclassic book learning is proven to have various positive impacts, including facilitating access to classical books in digital form, helping santri understand texts through translation and harakat applications, and enabling a more flexible, interactive learning process, and in accordance with the learning rhythm of each santri.

The results showed that the implementation of ICT not only enriched the method of delivering the material, but also increased the motivation and participation of santri in understanding the content of the yellowclassical books. However, the effectiveness of this model is highly dependent on the readiness of infrastructure, the digital competence of educators, and the ability of pesantren to maintain typical pesantren values such as adab, scientific sanad, and spirituality in the midst of the digitalization process. Therefore, the ICT-based yellowIslamic classic book learning model must be designed contextually, collaboratively, and sustainably so that it can become a relevant, effective, and educational solution that remains rooted in the noble pesantren tradition.

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