



Digital-Based Transformation of Quranic Teaching to Improve Community Competence in the Technological Era: A Case Study in Bandung Regency

Asep Muhyiddin^{1*}, Solihin², Caca Handika³

^{1,2,3} Universitas Islam Negeri Sunan Gunung Djati Bandung, Indonesia

*Corresponding Author, Email: asep.muhyiddin@uinsgd.ac.id

ARTICLE INFO	ABSTRACT
<p>Keywords:</p> <p>Blended Learning; Community-Based Education; Digital Literacy; Digital Qur'an; Islamic Education.</p> <hr/> <p>Article history:</p> <p>Received 2025-11-16 Revised 2026-03-06 Accepted 2026-03-06</p>	<p>This study aims to analyze the digital transformation of Qur'anic teaching to enhance community competence in the technological era, focusing on three majelis ta'lim (Islamic study groups) in Bandung Regency. Key concepts include digital literacy, blended learning, community-based education, and Islamic education based on adab (ethics). The research employed a participatory approach with observation, interviews, focus group discussions, and simple questionnaires. The subjects comprised women from majelis ta'lim and Generation Z, representing two major social groups in digital adoption. The findings reveal that the use of Qur'an applications, video conferencing, and YouTube-based distribution of learning materials improves access, flexibility, and interactivity in religious education. Challenges include limited digital infrastructure, generational gaps in digital literacy, and concerns over the decline of spiritual blessings inherent in face-to-face learning. This study recommends a digital Qur'anic learning model that balances traditional values with technological innovation. Practical implications highlight the importance of continuous mentoring, strengthening teachers' digital capacity, and developing creative, verified digital content.</p> <p>Contribution: This research contributes to the development of digital literacy theory in Islamic education, enriches the literature on the role of majelis ta'lim in the digital era, and proposes a practical implementation model that can be replicated in other contexts.</p> <p><i>This is an open access article under the CC BY-SA license.</i></p> 

1. INTRODUCTION

The development of digital technology over the past two decades has had a significant impact on nearly every aspect of human life, including education. Digitalization has opened up new ways of acquiring, disseminating, and managing knowledge, previously only accessible through conventional classrooms or learning assemblies (Crittenden et al., 2019). Access to information has become faster, more flexible, and more geographically limitless. This phenomenon marks a major shift in the educational paradigm, from traditional face-to-face learning to a digital technology-based learning system (Ridho et al., 2025).

Religious education, particularly the teaching of the Quran, has not escaped these changes. While previously the community was only familiar with the talaqqi method and face-to-face meetings with teachers or ustadz, now

various digital platforms are beginning to be used as learning tools (Wahyudi et al., 2023)s. Quran apps, YouTube channels, and video conferencing platforms have become new media for improving the quality of religious learning. Thus, digitalization not only expands access but also changes the patterns of interaction between teachers and students in the context of Islamic education.

Globally, this trend is gaining momentum with the development of e-learning, which emphasizes flexibility across time and space. Educational institutions around the world are leveraging technology to expand the reach of learning, including in the realm of religious education (Jagatheesaperumal et al., 2024). In the Middle East, for example, universities and religious institutions have integrated digital technology into their Islamic curriculum (Malizal, 2025). A similar trend is occurring in Southeast Asia, where people are increasingly accustomed to using mobile applications to read the Quran, study interpretations, or listen to online religious studies (Jaenudin, 2024).

However, despite the wide-open opportunities of digitalization, significant challenges remain in the context of Quranic teaching. Traditionally, Indonesian learning methods have relied heavily on face-to-face meetings in madrasas, Islamic boarding schools (pesantren), or religious study groups (Majelis Ta'lim) (Kurniawan et al., 2023). While this system offers advantages in terms of personal interaction and spiritual depth, it also faces limitations. First, accessibility is limited to those who can physically attend the learning location. Second, learning times often align with the schedules of religious teachers (ustadz) or teachers, making it difficult for some people with busy schedules. Third, reliance on conventional methods makes Quranic learning less responsive to technological developments and the needs of the younger generation.

Generation Z, born and raised in the digital era, faces a different reality than previous generations. They are accustomed to gadgets, social media, and digital applications as part of their daily lives (Olçum & Gülova, 2023). If Quranic teaching continues to use conventional approaches without accommodating technological developments, there is a risk of decreasing interest among the younger generation in deepening religious knowledge (Setiawan, 2024). Therefore, digitizing Quranic teaching presents a strategic opportunity to bridge the spiritual needs of society with the digital world that is already familiar to today's generation.

The opportunities offered by digital technology are quite diverse. First, technology enables broader access to learning without the constraints of space and time. People can learn to read the Quran anytime and anywhere, as long as they have a digital device and an internet connection. Second, digital media supports personalized learning. Quran apps, for example, can help users repeat recitations at their own pace and even provide automatic corrections for tajweed. Third, digitalization opens up opportunities for greater collaboration, for example through online discussion forums, WhatsApp groups, or virtual classes that bring together participants from various regions.

Furthermore, digitalization has the potential to increase the inclusiveness of religious education. Housewives, previously confined to domestic time, can now access Quranic instruction from home. Similarly, people in remote areas can access the same religious materials as those living in large cities (Junaidi et al., 2022). In other words, digital technology can be a crucial instrument for achieving equitable access to religious education in Indonesia.

However, the digitalization of Quranic teaching cannot be separated from criticism. Some believe that the use of technology in religious learning can diminish the blessings of direct interaction between students and teachers (Rusdi et al., 2023). Another concern is the emergence of unverified digital content, which risks being misleading (Vese, 2022). Therefore, this transformation requires a mentoring system, content curation, and capacity building for religious teachers to enable them to utilize technology wisely.

Considering global dynamics and local challenges, it can be said that digitalizing Quranic teaching is not merely an option but an urgent need in the technological era (Restalia & Khasanah, 2025). This innovation addresses the limitations of traditional methods and provides an opportunity to strengthen the relevance of Islamic education in modern society (Shofiyyah et al., 2023). The next step is how this transformation can be implemented contextually according to the conditions of communities in specific regions, including Bandung Regency, which boasts social and cultural diversity.

Bandung Regency is a region in West Java with a religious and dynamic society that thrives on technological developments (Susanti et al., 2020). Social life is characterized by religious activities, particularly through religious study groups (Majelis Ta'lim), which serve as informal religious learning spaces. These groups serve not only as places to study the Koran but also as platforms for fostering relationships, strengthening morality, and instilling Islamic values from an early age. However, the development of information technology presents new challenges to this learning tradition. Some members of the community, particularly the older generation, are still limited in their use of digital technology, while the younger generation tends to be more digitally engaged but less engaged in face-to-face religious learning.

In this context, this community service program focuses on three Islamic study groups (Majelis Ta'lim) in Bandung Regency: Majelis Ta'lim Nurussa'adah in Cikancung District, Majelis Ta'lim Darul Hasyimi in Soreang District, and Majelis Ta'lim Darul Bahar in Cileunyi District. These three locations were chosen because they represent the diverse conditions of the Bandung Regency community, both in terms of geography, social aspects, and access to technology. The target groups consist of two main groups: first, the mothers of the Islamic study groups who play a role as pillars of the family and agents of religious education in the household; second, Generation Z who are familiar with technology but tend to need a new approach to maintain interest in learning the Quran.

The primary objective of this community service activity is to improve community competency in accessing and utilizing digital technology for Quranic teaching. Furthermore, this program aims to develop a more inclusive, responsive, and sustainable model of religious learning tailored to the needs of contemporary society. By introducing Quranic applications, video conferencing platforms, and social media as learning tools, this program seeks to create a religious education ecosystem that transcends time and space while maintaining the traditional values of Islamic education.

In a literature review, several previous studies have shown a positive trend in the use of digital technology in religious education. For example, studies on mobile learning concluded that Android-based applications can increase student motivation and learning independence (Alghazzawi et al., 2021). Other research on online learning in Islamic boarding schools (pesantren) emphasized the importance of digital innovation to overcome limited access during the pandemic (Rulitawati et al., 2025). Similarly, research on digital literacy among Muslims in Indonesia revealed that despite high levels of technology adoption, there is still a significant gap between older and younger generations in utilizing it for religious education (Muhammad Khakim Ashari et al., 2023).

However, the literature review identified several significant research gaps. First, most research focuses on formal educational institutions such as schools or Islamic boarding schools (pesantren), while the role of majelis ta'lim (Islamic study groups) as non-formal institutions has not been extensively researched. Second, although digital literacy is a crucial issue, studies directly linking improvements in digital literacy to the quality of Quranic teaching are limited. Third, most research is descriptive in nature, so few offer practical implementation models that can be adopted by the wider community.

This research aims to fill this gap by presenting empirical experiences of community service programs in Bandung Regency. The digital-based transformation of Quranic teaching conducted in three Islamic study groups (Majelis Ta'lim) serves as a concrete example of how digital literacy can be improved while expanding access to religious education at the grassroots level. Using a participatory approach, this activity not only describes community conditions but also offers implementation strategies that can be replicated elsewhere. Thus, this research contributes both practically to the development of community service programs and academically by enriching the literature on the digitalization of religious education.

2. METHOD

The method used in this community service program is based on a participatory approach. This approach was chosen because digital-based Quranic teaching cannot be implemented unilaterally but must involve the active participation of the community as the primary subject. The participatory approach allows for two-way interaction between the implementation team and participants, allowing for the community's needs, constraints, and expectations to be addressed from the outset (Barreteau et al., 2013). Thus, community service activities are not merely a transfer of knowledge but also an empowerment process that positions the community as partners.

The activity locations were determined at three Islamic study groups in Bandung Regency, West Java. First, the Nurussa'adah Islamic study group, located in Miji Hamlet, RT/RW 02/04, Tanjunglaya Village, Cikancung District. This group is located in a semi-rural area with a community character that still strongly adheres to the tradition of face-to-face learning. Second, the Darul Hasyimi Islamic study group, located at Jalan Parung Serab No. 22, Parungserab Village, Soreang District. This location represents a semi-urban area with relatively better access to technology compared to the previous group. Third, the Darul Bahar Islamic study group, located on Jalan A.H. Nasution, Cileunyi Kulon Village, Cileunyi District. This group is located in a heterogeneous urban area, with participants from diverse social backgrounds and varying levels of digital literacy. The selection of these three locations was intended to obtain a more comprehensive picture of the conditions of the Bandung Regency community in facing digital transformation.

The primary targets of this activity were mothers of religious study groups and Generation Z, who are involved in religious activities at the three locations. Mothers of religious study groups were chosen because they play a crucial role in religious education at the family level, and improving their digital literacy is expected to impact the home environment. Meanwhile, Generation Z was chosen because they are an age group highly familiar with digital technology but often lack in-depth attention to religious learning. By involving these two groups, this community service activity is expected to bridge the digital literacy gap between generations while strengthening religious values within families and communities.

The stages of this community service activity are divided into three main parts: preparation, implementation, and evaluation. During the preparation stage, the implementation team conducted initial observations to understand the conditions of each study group, including digital literacy levels, available technological infrastructure, and participant needs. Furthermore, the team coordinated with study group administrators and community leaders to gain support and ensure the program's continuity. Training materials were designed based on the observations, emphasizing the use of digital Quran applications, video conferencing platforms, and social media as learning tools.

The implementation phase was carried out through a series of training and mentoring activities. These included an introduction to the digital Quran application, Quran reading practice on mobile devices, and the use of Zoom or Google Meet for distance learning. Participants were given the opportunity to directly try the introduced applications with guidance from the implementation team. Additionally, an online learning simulation brought together participants from the three Islamic study groups, enabling them to experience the benefits of cross-community collaboration. Intensive mentoring was provided, particularly to participants experiencing technical difficulties, such as mothers unfamiliar with using smartphones for learning purposes.

The evaluation phase was conducted to measure the program's effectiveness and the extent to which its objectives were achieved. The evaluation was conducted through in-depth interviews, focus group discussions, and a simple questionnaire to assess changes in participants' skills. Interviews were used to explore participants' subjective experiences, including perceived barriers and benefits. Focus group discussions were conducted to map collective perspectives, while field observations were used to identify tangible changes in digital-based Quranic learning practices. Photo and video documentation was also collected as evidence of the activity and a means of reflection.

The data collection methods used in this activity not only aim to produce a community service report but also to support the preparation of a scientific article. Qualitative data, including participant testimonials and observation notes, serve as the basis for understanding the impact of the digital-based transformation of Quranic teaching. Meanwhile, quantitative data from questionnaires is used to strengthen findings related to improving digital literacy. This combination of methods allows for data triangulation, ensuring more valid and academically accountable research results.

With this structured approach, the community service program is expected to not only provide practical benefits for participants but also generate academic contributions to the development of digital-based Quranic learning models. The participatory approach, multi-generational engagement, and multi-layered evaluation make this activity a concrete example of transforming religious education at the community level.

3. RESULTS AND DISCUSSION

Transformation from Conventional to Digital Methods

Before this community service program was implemented, the majority of participants in three Islamic study groups in Bandung Regency still relied on conventional teaching methods, namely face-to-face meetings with a religious teacher. This pattern has been passed down through generations and is part of the Islamic educational tradition in the community. Students typically sit opposite the teacher, take turns reading the Quran, and then receive direct correction. This model is considered special because it is believed to bring blessings (*barakah*) within this face-to-face interaction. In addition to the cognitive aspect of improving Quranic reading skills, this system also instills values of etiquette and spiritual closeness between students and teachers (Nurul Hidayah et al., 2025).

However, with the changing times, conventional methods face increasingly significant limitations. First, access to learning is limited to those physically present. For housewives busy with domestic chores, the opportunity to attend regular religious studies is often limited. Second, study time is highly dependent on the religious teacher's schedule. If religious studies are held only once a week, opportunities to review material are

limited. Third, the constraints of space and time make this system less flexible for the younger generation living in the digital age and highly mobile.

Digital transformation in Quranic teaching emerged as a response to these limitations. This community service program introduced digital media—such as Quranic apps, Zoom, YouTube, and WhatsApp groups—as alternative tools to support learning. The goal was not to replace conventional methods, but rather to complement them, making them more adaptable to the needs of modern society. This transition was not an instant process. Many participants, especially women from the Islamic study groups (Majlis Ta'lim), initially felt awkward with technology. A woman from the Nurussa'adah Islamic study group (Majlis Ta'lim Nurussa'adah) shared her experience:

“At first, I was very confused when I was asked to learn how to use a cell phone. I always thought cell phones were just for calling my children and using WhatsApp to hear news from family. When the teacher told me we were going to try learning the Quran through an app, I said to my friends, ‘Wow, this seems difficult for us older people.’ But after being taught slowly, I started to understand. The features in the app actually helped me. For example, if I read something wrong, I could repeat it myself, and I could listen to the murottal over and over again without having to disturb the teacher. If I wanted to repeat a lesson before, I had to wait for the next one, but now I can learn anytime, even while cooking in the kitchen. So, even though I was scared at first, I gradually became happy because it wasn't as difficult as I imagined.” (Interview with NP, 2025).

This quote illustrates the normal psychological dynamics involved in technology adoption. Initial fear and hesitation often arise due to limited digital literacy. However, with guidance and practice, participants begin to understand that technology actually provides flexibility. This aligns with UNESCO's theory of digital literacy, which defines an individual's ability to access, understand, and use digital technology critically and productively (Martínez-Bravo et al., 2022).

Figure 1 Nurussa'adah Study Group



(Source: Research Team Documentation, 2025)

In contrast to mothers, Generation Z showed a quicker and more positive response. They are accustomed to using devices for various activities, so learning the Quran through apps feels more natural. A student from Majlis Ta'lim Darul Bahar said:

I'm one of those who often attends religious studies in the assembly, but sometimes I'm not consistent because the schedule often clashes with lectures or campus activities. If I miss a meeting, I usually get confused because the material is already running. Now, since there's an app and also recordings of the studies that can be accessed on YouTube, I feel more helped. I can set my own study time, even while reviewing the readings in my room. Sometimes I even record myself reading the Quran, then I send it to a WhatsApp group to ask for corrections from the ustadz. It feels more interactive and connected to my daily life. I used to play on my phone for entertainment, but now I have a reason to open it for more useful things. For me, this is a new way to learn religion that is closer to my world. (Interview with PA, 2025).

These testimonials demonstrate that digitalizing Quranic teaching can address the younger generation's need for flexibility and interactivity. They feel that religious learning is no longer bound by time and space, but can be integrated into daily routines. This aligns with constructivism, which argues that effective learning occurs when students can connect learning experiences to real life (Rob & Rob, 2018). In other words, digital transformation makes Quranic learning more relevant for the digital generation.

Figure 2 Darul Bahar Study Group

(Source: Research Team Documentation, 2025)

On the other hand, religious scholars and teachers are facing new challenges in their roles. Previously, they were the only source of knowledge, but now participants can access many other sources via the internet. This change requires the role of religious scholars to shift from simply delivering material to being facilitators and curators who guide participants in choosing the right content. A religious scholar at Majlis Ta'lim Darul Hasyimi said:

I was a bit hesitant at first. I was worried that if I studied via cell phone, the students would lose their manners. In our tradition, learning the Quran requires sitting face to face with the teacher, listening to the recitation directly, and there is a blessing that comes from face-to-face contact. How can I maintain that atmosphere if I study via cell phone? But after trying it, it turns out there are positive aspects that cannot be ignored. Many mothers who used to rarely attend because they were busy at home can now still participate in learning from home. Young people are also more enthusiastic because the media used is in line with their world. So, I always remind the congregation, this technology is just a tool. Don't let an app make us no longer respect our teachers. Manners are still number one, but we can use technology to make things easier. (Interview with AA, 2025).

This quote emphasizes the importance of maintaining a balance between traditional values and innovation. Islamic educational theory places etiquette as the primary foundation of the learning process. Therefore, digitalization should be seen as a complement, not a substitute, for face-to-face interaction. The concept of blended learning, widely used in modern education, can provide a bridge: combining the warmth and blessings of face-to-face interaction with the flexibility of digital media (Singh et al., 2021).

This transformation impacts not only technical aspects but also learning paradigms. For participants, religious learning is no longer confined to classrooms or religious assemblies, but can be done anytime, with the support of technology. For teachers, their role is increasingly strategic as guides, ensuring digital content aligns with Islamic values. From a theoretical perspective, this supports the idea of community-based education, where community-based learning is strengthened by the active participation of community members, rather than relying solely on instructions from above (Edwards, 2019).

Figure 3 Darul Hasyimi Study Group

(Source: Research Team Documentation, 2025)

Despite its significant benefits, this transformation still faces obstacles. Technical barriers such as limited devices and internet access remain a challenge in semi-rural areas (Putera, 2025). Cultural barriers, such as concerns about the loss of blessings, also arise. However, both can be overcome through ongoing mentoring, provision of facilities, and affirmation of the value that technology is merely a tool.

Thus, the transformation from conventional to digital methods in three Islamic study groups in Bandung Regency reflects the local community's efforts to adapt to global change. This process demonstrates that society does not reject technology, but rather requires time to adapt. With the right approach, traditional and modern methods can coexist. As a result, Quranic teaching becomes more inclusive, relevant, and sustainable without losing the spiritual spirit that is the hallmark of Islamic education (Mhd Lailan Arqam et al., 2025).

Utilization of Digital AI-Quran Applications

One way to transform Quranic teaching in three Islamic study groups (Majelis Ta'lim) in Bandung Regency is through the use of a digital Quran application. This application was chosen because it is relatively easy to access, can be used on mobile devices, and provides features that support the process of learning to read, understand, and internalize the Quran. In an era when nearly every member of society owns a smartphone, the use of a Quranic application is a strategic step to expand access to religious education.

Before this program, most women in the Islamic study group only used their phones to communicate via WhatsApp or simply call family. They rarely, if ever, realized that their phones could be a tool for religious learning. Through this service, they were introduced to various digital Quran applications, such as AI-Quran Indonesia, Quran Best, and Ayat. Participants were taught how to download the applications, access interpretations, use audio recitations, and read the tajweed guides provided within the apps.

The mentoring process was carried out in stages. At first, many participants felt awkward. They were afraid of pressing the wrong button, worried about damaging their device, or confused by the numerous menus. However, as time went on, they began to experience real benefits. A mother from Majelis Ta'lim Darul Hasyimi enthusiastically shared her experience:

I didn't know there was a Quran on my phone. When I heard stories, my children would often say, 'Is there really a Quran on my phone?' But when I taught them, it turned out it really was there, complete with translations, tajweed, and even the voice of someone reading it. At first, I was hesitant, afraid of pressing the wrong button, but it turned out to be very easy. Now, when I'm busy at home, I just open the app and hear the verses being read. Sometimes, before bed, I open the tafsir (interpretation) to increase my knowledge. For me, who often can't attend assemblies because my grandchildren are fussy, this app has become a new friend. It feels like having a teacher who is always ready to accompany me. (Interview with ZA, 2025).

This quote demonstrates that digital Quran applications are not only reading tools but also spiritual companions that accompany daily activities. Mothers, whose mobility has been limited due to domestic activities, now have an alternative way to maintain interaction with the Quran. For Generation Z, digital applications feel more familiar. They use them not only for reading but also as interactive media. A student at Majelis Ta'lim Darul Bahar said:

"I've been used to reading the Quran from an app since high school, but I usually just read it without paying attention to the tajweed. After joining this program, I discovered there's a colorful tajweed feature, and an easy-to-understand interpretation. So, I've become more serious about it. I also like to use the bookmark feature, so if there's a verse, I find important for my daily life, I mark it. Sometimes I share it on my Instagram story so my friends can read it too. So, I don't just read the Quran myself, but I can share it with others through social media. I think this method makes learning religion more contemporary, closer to the world of young people." (Interview with SF, 2025).

This testimony illustrates how the younger generation not only consumes digital Quranic content but also reimagines it to suit their lifestyles. They share verses on social media, create digital notes, and even connect personal experiences with the sacred text. According to constructivism, knowledge is not simply transferred but constructed through personal experience and interpretation (Kim & Adlof, 2024).

Meanwhile, the religious teachers see the Quran app as a tool that makes teaching easier. One teacher at the Nurussa'adah Islamic Boarding School (Majelis Ta'lim Nurussa'adah) said:

"Previously, I had to prepare many copies of the Quran to distribute, but now I can just use my phone. Everyone in the congregation can open the same verse, and we can study together. Interestingly, many women have become more diligent because they feel there's no longer any excuse not to study. They can open the Quran at home and listen to murottal anytime. I've come to see this app not as a threat, but as an opportunity. The challenge is, of course, how to ensure that the congregation doesn't just read the digital text, but also understands tajweed and the etiquette of reading it. Because the Quran isn't just a text; there's a proper way to read it." (Interview with DD, 2025).

This statement emphasizes that digital Quran applications are not intended to replace the role of teachers (Reksiana et al., 2024). Instead, teachers remain central figures in ensuring proper recitation, correct understanding of tajweed, and adherence to etiquette when interacting with the Quran. In Islamic educational theory, teachers are not merely instructors but also spiritual guides (Memon et al., 2024). Therefore, the use of applications must always be contextualized with Islamic values to avoid becoming merely a technical activity.

Communities that are able to use digital technology wisely will be more adaptive in facing changing times (Mereuta et al., 2025). The use of the Quran application in Islamic study groups (Majlis Ta'lim) is a concrete example of the implementation of digital literacy in the realm of religious education (Shavira Salsabila et al., 2024). By mastering this application, participants not only learn to read the Quran but also develop digital skills that are useful for everyday life. Furthermore, blended learning is also relevant. The Quran application does not eliminate face-to-face Islamic study sessions, but rather complements them (Sugito, 2024). Participants still attend the Islamic study groups to meet with the ustadz, but they can also study independently through the application. This model balances the blessings of direct interaction with the flexibility of technology (Kusairi et al., 2023).

Despite its many benefits, using the app also faces challenges. First, not all participants have compatible phones. Some are still using older devices with limited memory capacity. Second, internet quotas are a barrier, especially for participants from the lower middle class. Third, there are concerns from some parents or community leaders who believe that reading the Quran from a mobile phone diminishes the sacredness of the Quran. These challenges are addressed through a persuasive approach, explaining that the app is merely a tool, while the blessings of the Quran remain the same.

Thus, the use of digital Quran applications has brought about significant changes in how society interacts with the holy book. Women in religious congregations have found new spiritual companions to accompany them in their daily activities. The younger generation has access to learning tools tailored to their world. Ustadz (Islamic teachers) have found media that facilitate the teaching process. From a theoretical perspective, this utilization reflects the practices of digital literacy, constructivism, blended learning, and adab-based Islamic education. In other words, digital applications are not merely technical tools, but also bridges connecting tradition and modernity.

Remote Study via Video Conference Platform

In addition to the use of Quran applications, one important innovation in transforming learning in Islamic study groups is the implementation of distance learning through video conferencing platforms such as Zoom and Google Meet. This technology provides new opportunities for the community to participate in Islamic study without having to physically be present at the location (Gao et al., 2024). This is especially relevant for congregants with limited mobility, whether due to work commitments, household responsibilities, or health factors.

Prior to this innovation, religious study groups were always associated with physical attendance at mosques or religious study groups. Those unable to attend automatically missed out on the material. However, the COVID-19 pandemic that has plagued the community in recent years has raised awareness that technology can be an effective alternative tool. This momentum has been furthered by community service programs integrating video conferencing platforms into Quranic teaching (Nisar & Muhammad, 2024).

Initially, many participants found the concept of learning to recite the Quran through a screen unfamiliar. Sitting cross-legged in front of a teacher, listening to the recitation directly, and experiencing physical togetherness have long been considered the essence of Quranic recitation (Kozubaev & Howell, 2024). However, with mentoring, participants began to understand that despite the different media, the essence of the learning can still be maintained. In fact, for some congregants, this method actually opened up new avenues. A mother from the Majlis Ta'lim Nurussa'adah expressed emotion:

"The first time I joined a Koran study group via Zoom, I was a bit surprised. Usually, when we study, we gather, shake hands with friends, sit on a mat, and listen to the ustadz read. But this time, I sat in the kitchen, opened my phone, and saw the ustadz's face on the screen. It felt strange, but it turned out to be quite enjoyable. I could still hear the explanation, see my friends, and most importantly, I didn't miss any material. Especially when my grandchildren were napping, I could join in without having to leave them with a neighbor. It was more practical. Although it wasn't exactly the same as studying in person, I felt like I was still getting the knowledge." (Interview with DR, 2025).

This quote demonstrates a shift in perspective: from a feeling of alienation to a positive experience. For housewives, video conferencing offers flexibility. They are no longer constrained by domestic affairs to attend academic gatherings. Meanwhile, Generation Z feels more comfortable with online platforms. A student from Majlis Ta'lim Darul Bahar said:

"I'm used to using Zoom for online lectures, so when I use it for Quran study, it feels natural. The difference is, the atmosphere is more solemn. The ustadz can share verses on the screen, show interpretations, and even correct our readings directly. I find studying via Zoom really helpful, especially when I'm in my boarding house or can't get home. So even though I can't meet in person, I still feel close to the teacher. In fact, sometimes I'm more focused, because at home there aren't the distractions of a crowd like in a congregation." (Interview with RW, 2025).

This testimony demonstrates how the younger generation views technology not just as a tool, but as a part of their daily lives. Online religious studies actually strengthen their bond by allowing them to learn in a more personal setting. For the religious teachers, this experience presents new challenges. One of the instructors at Majlis Ta'lim Darul Hasyimi shared his reflections:

"For me, teaching via Zoom is a different experience. On the one hand, I'm happy to be able to reach more congregants, some even from out of town. But on the other hand, I'm worried about losing the sense of community. In the assembly, there's a warmth when students read directly in front of the teacher. Through a screen, that interaction feels diminished. Therefore, I always emphasize to the congregation: even though we're learning via mobile phones, manners and sincerity must remain the same. Don't let it be that just because we're at home, we end up lying down or doing other things. Learning the Quran must remain serious, even if the medium is digital." (Interview with SM, 2025).

This statement emphasizes the importance of balancing the benefits of technology with ethical values in Islamic education. Online studies offer broader opportunities, but teachers still play a role in maintaining students' spiritual discipline.

From a theoretical perspective, the practice of online religious study can be explained using the concept of distance learning (Ferretti et al., 2021). According to Moore, distance learning is effective when supported by two-way communication, interactivity, and clarity of material (Moore & Piety, 2022). In the context of a religious study group, Zoom allows for two-way interaction between the ustadz and the congregation. Participants can directly ask questions, repeat readings, or request more detailed explanations. This interactivity ensures that the online experience retains its substance.

Furthermore, this phenomenon is also relevant to blended learning. Participants can still attend the majelis ta'lim (Islamic study group) for in-person interaction, but also have the option to participate online if unable to attend. This model reflects the flexibility required by modern society (Suryadi et al., 2023). The theory of community-based education is also crucial in explaining this dynamic (Baldrige et al., 2017). Although the medium is digital, the spirit of togetherness remains. WhatsApp groups, Zoom sessions, and in-person meetings complement each other in strengthening the solidarity of the learning community. Thus, the digital transformation does not erase the majelis ta'lim's identity as a community space, but rather expands its reach.

However, implementing online study also faces challenges. First, limited infrastructure. Not all areas have a stable internet connection, especially in semi-rural areas. Second, technical issues such as confusion in using the app, intermittent sound, or incompatible devices. Third, discipline. Some participants find online study sessions more relaxing, leading them to participate while engaging in other activities. This has the potential to diminish the quality of spiritual interaction.

However, this community service program demonstrates that these challenges can be overcome. With basic training on how to use the app, simple guidance, and close supervision from the ustadz (teacher), participants are

becoming accustomed to taking online religious studies seriously. Some congregants even feel more productive because they can manage their study schedules flexibly.

Distance learning through video conferencing platforms has transformed the way people in Bandung Regency interact with the Quran. Women in the congregation have found a solution to continue learning without neglecting domestic responsibilities. Generation Z feels more connected because technology fits their lifestyle. Ustadz (Islamic teachers) have found a new medium to expand their da'wah (Islamic outreach), even while maintaining the etiquette and discipline of their congregation. From a theoretical perspective, this practice demonstrates the relevance of the concepts of digital literacy, blended learning, distance learning, and etiquette-based Islamic education (Mu'amalah, 2024). In other words, online learning is not simply a technical adaptation, but represents a paradigm shift in religious education. The tradition of face-to-face learning remains intact, but is now expanded with virtual spaces that allow for more inclusive, flexible, and sustainable Quranic teaching.

Distribution of Material via YouTube

One of the most prominent innovations in this community service program is the distribution of teaching materials through the YouTube platform. This strategy was chosen because YouTube is already deeply embedded in people's lives, both among the younger generation and housewives. Its free access, flexibility, and the ability to replay content at any time make YouTube a relevant medium for expanding the reach of Quranic learning (Muharrifah & Sikumbang, 2025).

This view emphasizes that while YouTube is beneficial, it remains positioned as a complement, not a substitute, for physical meetings (Georgakopoulou, 2015). From an Islamic educational perspective, the aspects of etiquette and the blessings of interaction remain key pillars (Alhamuddin et al., 2022). From a theoretical perspective, distributing materials via YouTube is relevant to the concept of open educational resources (OER), namely learning resources that are open and accessible to anyone (Hu et al., 2015). OER emphasizes the importance of accessibility and openness as key to equitable education. By uploading materials to YouTube, Islamic study groups contribute to the democratization of religious knowledge.

Furthermore, this phenomenon aligns with lifelong learning. With recordings, participants can learn at any time throughout their lives, regardless of age or condition (Kudithipudi et al., 2022). Mothers can rewatch while taking care of the house, young people can listen during campus activities, and even seniors with limited mobility can still access religious studies.

However, distribution via YouTube also faces challenges. First, technical limitations in recording. Not all sessions are recorded with good audio-visual quality. Second, challenges in content management, such as upload consistency, playlist creation, and channel promotion. Third, the potential for distraction: YouTube also contains entertainment content that can divert users' attention. To address this, the community service team trained the younger generation of the congregation as channel admins. They were taught the basics of recording, simple editing, and channel management. Thus, distribution of materials not only produced content but also fostered new digital skills in participants (Saikkonen & Kaarakainen, 2021).

The distribution of materials through YouTube has had a significant impact on Quranic learning in three Islamic study groups. Participants no longer worry about missing material, the younger generation has discovered a new means of preaching, and teachers have gained the opportunity for self-evaluation. From a theoretical perspective, this phenomenon represents the implementation of digital literacy, OER, lifelong learning, and blended learning in the context of Islamic education. In other words, YouTube is not just a medium for entertainment, but has become an inclusive, flexible, and broad-reaching medium for preaching and education.

Differences in Implementation in Three Ta'lim Assemblies

The transformation of digital-based Quran learning in Bandung Regency demonstrates different dynamics in each study group. At the Nurussa'adah Study Group in Cikancung, a semi-rural area with unstable internet connectivity, the main challenge lies in the congregation's low digital literacy. Many mothers are new to Quran apps, and some still use simple phones only for communication. These technical barriers slow adaptation. However, their enthusiasm for learning is high. One mother innocently recounted how she initially didn't believe the Quran could be accessed via mobile phone.

'I have a cell phone, but my kids often use it. When I was first asked to download the Quran app, I was confused. The signal in my village sometimes disappeared, so I often couldn't open it. But thank God, a young man helped us, very patiently explaining. Slowly, I got the hang of it. Although it's not yet fluent, at

least I can open the Quran on my phone. I feel very proud, because before, I thought cell phones were only for making calls," (Interview with WD, 2025).

This testimony demonstrates that at Darul Bahar, the focus is no longer on adaptation, but rather on innovation and creativity in managing digital da'wah. A comparison of these three assemblies confirms that implementing digital transformation cannot be done in a uniform manner. Nurussa'adah requires intensive technical assistance to overcome the digital divide (Lythreatis et al., 2022). Darul Hasyimi requires strategies to maintain motivation to maintain program consistency. Meanwhile, Darul Bahar serves as an example of an assembly with a high level of readiness capable of producing digital da'wah innovations. From a situated learning perspective, learning success is strongly influenced by the social and environmental context, so strategies must be tailored to each location (Ghavami Hosein Pour et al., 2025). This also confirms that digital literacy, motivation, and creativity are crucial variables in determining the success of technology-based Quranic learning transformation.

Table 1 Differences in the Implementation of the Three Ta'lim Assemblies

Location & Characteristics	Main Challenges	Adaptation Strategy	Key Findings/Results
Nurussa'adah (Cikancung, semi-rural)	Limited internet access; low digital literacy (many of the congregation are elderly women)	Intensive mentoring by the younger generation; basic training in using the application	The congregation is starting to feel confident using the Quran application on their cellphones even though they were initially hesitant.
Darul Hasyimi (Soreang, semi-urban)	Consistency of participation; congregation motivation decreased after the start of the program	Regular reminders via WA, intergenerational collaboration	Digital transformation is going well technically, but it needs a sustainability strategy.
Darul Bahar (West Cileunyi, urban)	The challenge is not technical, but innovation in preaching content	Young generation as facilitators; YouTube & Zoom management	High digital literacy; birth of digital missionary innovations (creative content, wide distribution)

4. CONCLUSION

This study confirms that the digital-based transformation of Quranic teaching in Bandung Regency is able to address the challenges of the limitations of conventional methods while expanding access to religious education for various community groups. The main findings indicate that digitalization through Quranic applications, video conferencing platforms, and the distribution of materials on YouTube successfully increased digital literacy while maintaining the continuity of religious interactions in Islamic study groups. Theoretically, this study strengthens the concepts of digital literacy, blended learning, and community-based education in the context of Islamic education. Practically, the results provide an adaptive implementation model suited to the characteristics of semi-rural, semi-urban, and urban communities. However, the limitation of this study lies in its scope, which only involved three Islamic study groups, which limits the generalizability of the findings. For further research, comparative studies in other regions are recommended, incorporating variables such as motivation, digital content creativity, and the broader role of religious authorities. Thus, this study makes a significant contribution to strengthening the relevance of Islamic education in the technological era, without abandoning the values of adab and spirituality that are characteristic of Quranic teaching.

REFERENCES

Alghazzawi, D. M., Hasan, S. H., Aldabbagh, G., Alhaddad, M., Malibari, A., Asghar, M. Z., & Aljuaid, H. (2021). Development of Platform Independent Mobile Learning Tool in Saudi Universities. *Sustainability*, 13(10), 5691. <https://doi.org/10.3390/su13105691>

- Alhamuddin, A., Surbiantoro, E., & Erlangga, R. D. (2022). *Character Education in Islamic Perspective*. <https://doi.org/10.2991/assehr.k.220407.066>
- Baldrige, B. J., Beck, N., Medina, J. C., & Reeves, M. A. (2017). Toward a New Understanding of Community-Based Education: The Role of Community-Based Educational Spaces in Disrupting Inequality for Minoritized Youth. *Review of Research in Education*, 41(1), 381–402. <https://doi.org/10.3102/0091732X16688622>
- Barreteau, O., Bots, P., Daniell, K., Etienne, M., Perez, P., Barnaud, C., Bazile, D., Becu, N., Castella, J.-C., Daré, W., & Trebuil, G. (2013). *Participatory Approaches* (pp. 197–234). https://doi.org/10.1007/978-3-540-93813-2_10
- Crittenden, W. F., Biel, I. K., & Lovely, W. A. (2019). Embracing Digitalization: Student Learning and New Technologies. *Journal of Marketing Education*, 41(1), 5–14. <https://doi.org/10.1177/0273475318820895>
- Edwards, D. B. (2019). Shifting the perspective on community-based management of education: From systems theory to social capital and community empowerment. *International Journal of Educational Development*, 64, 17–26. <https://doi.org/10.1016/j.ijedudev.2018.11.004>
- Ferretti, F., Santi, G. R. P., Del Zozzo, A., Garzetti, M., & Bolondi, G. (2021). Assessment Practices and Beliefs: Teachers' Perspectives on Assessment during Long Distance Learning. *Education Sciences*, 11(6), 264. <https://doi.org/10.3390/educsci11060264>
- Gao, Q., Woods, O., Kong, L., & Shee, S. Y. (2024). Lived religion in a digital age: technology, affect and the pervasive space-times of 'new' religious praxis. *Social & Cultural Geography*, 25(1), 29–48. <https://doi.org/10.1080/14649365.2022.2121979>
- Georgakopoulou, A. (2015). Sharing as rescripting: Place manipulations on YouTube between narrative and social media affordances. *Discourse, Context & Media*, 9, 64–72. <https://doi.org/10.1016/j.dcm.2015.07.002>
- Ghavami Hosein Pour, B., Karimian, Z., & Hatami Niya, N. (2025). A narrative review of advancing medical education through technology: the role of smart glasses in situated learning. *BMC Medical Education*, 25(1), 359. <https://doi.org/10.1186/s12909-025-06949-7>
- Hu, E., Li, Y., Li, J., & Huang, W.-H. (2015). Open educational resources (OER) usage and barriers: a study from Zhejiang University, China. *Educational Technology Research and Development*, 63(6), 957–974. <https://doi.org/10.1007/s11423-015-9398-1>
- Jaenudin, A. (2024). The Influence of Information Technology On Religious Practices In Urban Muslim Communities. *Al-Madinah: Journal of Islamic Civilization*, 1(2), 157–168. <https://doi.org/10.70901/tqcj1117>
- Jagatheesaperumal, S. K., Ahmad, K., Al-Fuqaha, A., & Qadir, J. (2024). Advancing Education Through Extended Reality and Internet of Everything Enabled Metaverses: Applications, Challenges, and Open Issues. *IEEE Transactions on Learning Technologies*, 17, 1120–1139. <https://doi.org/10.1109/TLT.2024.3358859>
- Junaidi, M., Mahmutarom, M., Ekaningrum, I. R., & Suryani, K. (2022). Education For Women in The Global Era of Islamic Perspectives. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, 14(1), 849–866. <https://doi.org/10.37680/qalamuna.v14i1.4790>
- Kim, M., & Adlof, L. (2024). Adapting to the Future: ChatGPT as a Means for Supporting Constructivist Learning Environments. *TechTrends*, 68(1), 37–46. <https://doi.org/10.1007/s11528-023-00899-x>
- Kozubae, S., & Howell, N. (2024). "Tuning in and listening to the current": Understanding Remote Ritual Practice in Sufi Communities. *Designing Interactive Systems Conference*, 2633–2648. <https://doi.org/10.1145/3643834.3661593>
- Kudithipudi, D., Aguilar-Simon, M., Babb, J., Bazhenov, M., Blackiston, D., Bongard, J., Brna, A. P., Chakravarthi Raja, S., Cheney, N., Clune, J., Daram, A., Fusi, S., Helfer, P., Kay, L., Ketz, N., Kira, Z., Kolouri, S., Krichmar, J. L., Kriegman, S., ... Siegelmann, H. (2022). Biological underpinnings for lifelong learning machines. *Nature Machine Intelligence*, 4(3), 196–210. <https://doi.org/10.1038/s42256-022-00452-0>
- Kurniawan, M. Z., Mujamil, M., Teguh, T., Maftukhin, M., & Akhyak, A. (2023). Communication Strategy for Islamic Boarding School Leaders in Improving the Quality of Education. *INTERNATIONAL JOURNAL OF SOCIAL SCIENCE AND EDUCATION RESEARCH STUDIES*, 03(04). <https://doi.org/10.55677/ijssers/V03I4Y2023-01>
- Kusairi, S., Trapsila, A. P., Muhamad, S., & Abdul Razak, N. (2023). Conceptual framework of information

- communication technology and local value (Ugahari) in work-life balance. *Community, Work & Family*, 1–22. <https://doi.org/10.1080/13668803.2023.2235071>
- Lythreathis, S., Singh, S. K., & El-Kassar, A.-N. (2022). The digital divide: A review and future research agenda. *Technological Forecasting and Social Change*, 175, 121359.
- Malizal, Z. Z. (2025). Islamic Education and Globalization: Curriculum, Identity, and Digital Integration. *Sinergi International Journal of Islamic Studies*, 3(2), 70–82. <https://doi.org/10.61194/ijis.v3i2.711>
- Martínez-Bravo, M. C., Sádaba Chalezquer, C., & Serrano-Puche, J. (2022). Dimensions of Digital Literacy in the 21st Century Competency Frameworks. *Sustainability*, 14(3), 1867. <https://doi.org/10.3390/su14031867>
- Memon, N. A., Abdalla, M., & Chown, D. (2024). Laying Foundations for Islamic Teacher Education. *Education Sciences*, 14(10), 1046. <https://doi.org/10.3390/educsci14101046>
- Mereuta, I., Duca, G., & Berectari, D. (2025). The adaptability of the human being to the rapid changes of contemporary society. *Bulletin of the Academy of Sciences of Moldova. Medical Sciences*, 80(3), 258–268. <https://doi.org/10.52692/1857-0011.2024.3-80.46>
- Mhd Lailan Arqam, Yogi Sopian Haris, Erik Tauvani Somae, & Rahmadi Wibowo Suwarno. (2025). Reconceptualizing Islamic Education through al-Islam and Kemuhammadiyah (AIK) for Advancing the SDGs in Indonesia. *Profetika: Jurnal Studi Islam*, 26(02), 383–406. <https://doi.org/10.23917/profetika.v26i02.12327>
- Moore, S. L., & Piety, P. J. (2022). Online learning ecosystems: comprehensive planning and support for distance learners. *Distance Education*, 43(2), 179–203. <https://doi.org/10.1080/01587919.2022.2064820>
- Mu'amalah, H. (2024). Transforming Student Satisfaction in the Digital Era: A Study of the Effects of Hybrid Learning and Digital Literacy in Islamic Religious Education. *AL-ISHLAH: Jurnal Pendidikan*, 16(4), 4728–4736. <https://doi.org/10.35445/alishlah.v16i4.6143>
- Muhammad Khakim Ashari, Moh Faizin, & Jamaluddin Shiddiq. (2023). Religious Digital Literacy of Students in Indonesia and Malaysia. *TADRIS: Jurnal Pendidikan Islam*, 18(1), 189–210. <https://doi.org/10.19105/tjpi.v18i1.8794>
- Muharrifah, E., & Sikumbang, A. T. (2025). The Effectiveness of Ustadz Hanan Attaki's Da'wah Sharing Time on Youtube. *Syiar: Jurnal Komunikasi Dan Penyiaran Islam*, 5(1), 21–34. <https://doi.org/10.54150/syiar.v5i1.642>
- Nisar, A., & Muhammad, U. K. (2024). Digitalization of Religious (Islamic) Education. *ĪQĀN*, 6(2), 1–14. <https://doi.org/10.36755/iqan.v6i2.448>
- Nurul Hidayah, Tobroni Tobroni, Khozin Khozin, & Abdul Haris. (2025). Development of High Quality Human Resources Through Qur'anic Spiritual Intelligence at SMAIT Ash-Shohwah Berau, East Kalimantan. *International Journal of Islamic Educational Research*, 2(3), 92–106. <https://doi.org/10.61132/ijier.v2i3.387>
- Olçum, G., & Gülova, A. A. (2023). Digitalization and Generation Z: Advantages and Disadvantages of Digitalization *. In *Two Faces of Digital Transformation* (pp. 31–46). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83753-096-020231003>
- Reksiana, Abuddin Nata, Dede Rosyada, Maila Dinia Husni Rahiem, & Abdulbosit R. Rafikjon Ugli. (2024). Digital Extension of Digital Literacy Competence for Islamic Religious Education Teachers in the Era of Digital Learning. *Jurnal Pendidikan Agama Islam*, 21(2), 402–420. <https://doi.org/10.14421/jpai.v21i2.9719>
- Restalia, W., & Khasanah, N. (2025). Transformation of Islamic education in the digital age: Challenges and opportunities. *Tadibia Islamika*, 4(2), 85–92. <https://doi.org/10.28918/tadibia.v4i2.8964>
- Ridho, M. R., Putri, R. M., Haifani, M. F., & Shafarani, A. Y. (2025). Digital Society 5.0 Trend: Initiating Quality Education in Indonesia. *JEID: Journal of Educational Integration and Development*, 5(2), 119–138. <https://doi.org/10.55868/jeid.v5i2.400>
- Rob, M., & Rob, F. (2018). Dilemma between constructivism and constructionism. *Journal of International Education in Business*, 11(2), 273–290. <https://doi.org/10.1108/JIEB-01-2018-0002>
- Rulitawati, R., Sriyanti, S., Zainuddin, M., Hadi, A., & Asvio, N. (2025). Innovating Islamic Education Through Technology: Strategies for Overcoming Challenges in Online Learning. *JMKSP (Jurnal Manajemen*

- Kepemimpinan, Dan Supervisi Pendidikan*, 10(1), 152–165. <https://doi.org/10.31851/jmksp.v10i1.17971>
- Rusdi, M., Riwayatningsih, R., Taufik, H., & Djollong, A. F. (2023). The Impact of Technology Use in Teaching and Understanding Religious Values on Students' Moral Development in Islamic Schools in Indonesia. *The Eastasouth Journal of Learning and Educations*, 1(03), 123–134. <https://doi.org/10.58812/esle.v1i03.158>
- Saikkonen, L., & Kaarakainen, M.-T. (2021). Multivariate analysis of teachers' digital information skills - The importance of available resources. *Computers & Education*, 168, 104206. <https://doi.org/10.1016/j.compedu.2021.104206>
- Setiawan, A. (2024). Ethical decision-making in educational leadership: Insights from Islamic scholars. *Edu Spectrum: Journal of Multidimensional Education*, 1(1), 15–27. <https://doi.org/https://doi.org/10.70063/eduspectrum.v1i1.29>
- Shavira Salsabila, Mokh. Iman Firmansyah, & Mohammad Rindu Fajar Islamy. (2024). Strengthening Literacy Competencies through Islamic Religious Education Learning in Elementary Schools. *Jurnal Elementaria Edukasia*, 7(4), 3325–3343. <https://doi.org/10.31949/jee.v7i4.11770>
- Shofiyyah, N. A., Komarudin, T. S., & Hasan, M. S. (2023). Innovations in Islamic Education Management within the University Context: Addressing Challenges and Exploring Future Prospects. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, 8(2), 193–209. <https://doi.org/10.31538/ndh.v8i2.3625>
- Singh, J., Steele, K., & Singh, L. (2021). Combining the Best of Online and Face-to-Face Learning: Hybrid and Blended Learning Approach for COVID-19, Post Vaccine, & Post-Pandemic World. *Journal of Educational Technology Systems*, 50(2), 140–171. <https://doi.org/10.1177/00472395211047865>
- Sugito, S. (2024). Hybrid Learning in Pesantren: Integrating Digital Pedagogy and Islamic Values to Enhance 21st-Century Competencies. *Tafkir: Interdisciplinary Journal of Islamic Education*, 5(4), 749–764. <https://doi.org/10.31538/tijie.v5i4.2207>
- Suryadi, Kamil, M., Saepudin, A., Saripah, I., Nursahidin, & Rahman, A. F. (2023). Role of the Nurul Hidayah Integrated Taklim Council in Meeting the Religious Learning Needs of the Elderly in Cirebon Regency. *Jurnal Penelitian Pendidikan IPA*, 9(12), 11661–11670. <https://doi.org/10.29303/jppipa.v9i12.6417>
- Susanti, I., Permana, A. Y., Pratiwi, W. D., & Widiastuti, I. (2020). Territorial space: Structural changes in a religious tourism area (The case of Kampung Mahmud in Bandung, West Java, Indonesia). *IOP Conference Series: Earth and Environmental Science*, 447(1), 012031. <https://doi.org/10.1088/1755-1315/447/1/012031>
- Vese, D. (2022). Governing Fake News: The Regulation of Social Media and the Right to Freedom of Expression in the Era of Emergency. *European Journal of Risk Regulation*, 13(3), 477–513. <https://doi.org/10.1017/err.2021.48>
- Wahyudi, S., Dudiyono, D., & Mawardi, K. (2023). Online Learning Talaqqi Method in Pesantren of Indonesia. *AL-ISHLAH: Jurnal Pendidikan*, 15(3), 2996–3004. <https://doi.org/10.35445/alishlah.v15i3.2596>