

Transforming education for Generation Z: traditional character-based at Pesantren

Herman Khunaivi¹, Intan Aulia Rakhmawati², Syarifatul Fitri Hidayah³

STAI Al-Anwar Rembang, Indonesia^{1,2,3}

hermankhunaivi@staialanwar.ac.id¹, intanaulia@staialanwar.ac.id²,

fitrihidayah@staialanwar.ac.id³

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Abstract

This study aims to describe the educational transformation at the *Pesantren* Al-Anwar III Sarang Rembang in facing the challenges of Generation Z through a traditionally oriented character-based. The research method used was descriptive quantitative with a questionnaire instrument that had been tested for validity and reliability, covering three leading indicators: internalization of traditional character values, integration of technology in learning, and the suitability of the educational approach to the characteristics of Generation Z. The results showed that the internalization of traditional character values obtained the highest percentage of 70.22%, reflecting the success of the *Pesantren* in maintaining Islamic values and traditions. Meanwhile, the integration of technology and the suitability of the educational approach obtained 57.13% and 57.04%, indicating that innovation and adaptation to the needs of Generation Z have begun but still need strengthening. *Pesantren* Al-Anwar III Sarang Rembang had attempted educational transformation through project-based learning activities, digital literacy, and collaboration with external institutions. However, infrastructure limitations and resistance to change were still challenges. This study emphasized that *Pesantren* education development in the modern era must be carried out with a selective approach, namely, maintaining fundamental values while adopting relevant and contextual innovations.

Keywords: generation-z; *pesantren*; traditional oriented-character based

INTRODUCTION

The exponential growth of information and communication technology has induced substantial changes in diverse sectors of human life, including education. Generation Z was born and grew up in the digital era, so they have unique characteristics. These characteristics include high digital skills, a tendency to learn independently, and a preference for interactive and technology-based learning. Their strong digital orientation fosters a preference for interactive and technology-based learning environments, rendering traditional lecture-based methods less effective (Seemiller & Grace, 2016).

Additionally, the prevalence of fast-paced digital content has contributed to shorter attention spans (McCrindle & Wolfinger, 2010), while their inclination toward independent and self-directed learning challenges conventional teacher-centered approaches (Schwieger & Ladwig, 2018). Mental health concerns are also increasingly significant among this generation, requiring educational institutions to address students' emotional well-being (Twenge, 2017). Furthermore, their exposure to diverse global perspectives encourages critical engagement with traditional norms, particularly in religious education (Seemiller & Grace, 2019). However, many *Pesantren* face technological limitations, creating a gap between institutional offerings and students' evolving needs (Zuhdi, 2015). To remain relevant, *Pesantren* must embrace digital integration and foster the development of 21st-century skills, including critical thinking, creativity, collaboration, and communication (World Economic Forum, 2016). Therefore, educational institutions, including *Pesantren*, must transform to remain relevant and meet this generation's needs.

Pesantren, as a traditional Islamic educational institution, has a vital role in shaping the character and morals of the younger generation (Banin et al., 2023, Fauzi et al., 2018). However, in this digital era, *Pesantren* is still challenged to maintain traditional values while adopting technology in the learning process. The transformation of *Pesantren* education is an absolute necessity to produce human resources that have a strong understanding of Islam and are competent in facing the challenges of the times (Assa'idi, 2021).

Several studies have highlighted the importance of educational transformation in *Pesantren*. Andit et al. (2020) emphasized that curriculum transformation was a crucial element so that Islamic boarding schools would not be trapped in conservatism alone but could be more contextual to the development of the times. Saifi et.al., (2025) explains the important role of the *kyai* as the owner of the Islamic boarding school in developing the

pesantren as part of forming the identity of the *santri*. Sulaiman (2022) emphasized the need to reconstruct educational models in Islamic boarding schools that were more responsive to the needs of the Industrial Revolution 4.0 through mastery of foreign languages, information technology, and entrepreneurship.

Other studies have also enriched the understanding of the direction of Islamic boarding school transformation. Suradi (2018) proposed that educational transformation in Islamic boarding schools must maintain their basic vision and mission while changing the format and methods in response to global challenges. Saihu & Rohman (2019) introduced a transformative learning model emphasizing siding with the *Mustad'afin* group and forming an inclusive character among students. Lamuri & Laki (2022) noted that the development of human resources in the era of disruption requires a holistic educational approach, covering spiritual, intellectual, social, emotional, and physical aspects, all of which require continuity in character building.

Although several studies have examined the transformation of education in Islamic boarding schools, not many have specifically linked it to the challenges and characteristics of Generation Z, especially in the context of Islamic boarding schools that have a traditional orientation, such as the Al-Anwar III Sarang Rembang Islamic Boarding School. This Islamic boarding school is unique in maintaining traditional values through a character approach based on classical scientific traditions while interacting with the generation of students who grow up in a digital world. Thus, it is important to examine the form of educational transformation applied by traditional Islamic boarding schools in educating Generation Z so that it remains relevant, contextual, and competitive.

Al-Anwar III Sarang Rembang Islamic Boarding School is one of the Islamic boarding schools that seeks to integrate traditional education with the needs of the times. This Islamic boarding school has a *Salafiyah* education system that emphasizes the study of yellow books or "*Kitab Kuning*" through the *band organ*, *slogan* methods, and *mujadara* activities. In addition, this Islamic boarding school also manages formal educational institutions such as the *Madrasah Diniyah Takmiliyah* (MDT) and the *Al-Anwar Islamic College* (STAI), which aim to produce intellectual and Qur'anic moral students.

In facing the digital era, Al-Anwar III Islamic Boarding School has also begun to adopt technology in the learning process that is integrated with the campus activities of STAI Al-Anwar Sarang. For example, students of STAI Al-Anwar Sarang actively initiate various

technology-based activities that support the transformation of Islamic boarding school education. Through the Student Press Institute (LPM), “*Garda Pena*” holds a Journalism Class that equips students with news writing skills, interview techniques, and digital media management. This activity also includes a visit to the editorial offices of NU Online Jateng and *Suara Merdeka* to learn professional media management. The Student Association of the Al-Qur'an and Tafsir Study Program (IQT) held a Qur'anic Literacy Seminar with the theme "Qur'anic Literacy: Digital Platform as a Means of Integrating Qur'anic Values," which encourages the use of digital platforms as a medium for preaching and Al-Qur'an education. In addition, the Center for Research and Community Service (P3M) of STAI Al-Anwar, in collaboration with the campus library, held a Repository Workshop to increase the capacity of digital data management in the academic environment. Students of the Elementary Madrasah Teacher Education Study Program (PGMI) are also involved in activities integrating technology into learning, such as online platforms for lectures and academic discussions and digital literacy training to improve their competence as prospective educators in the digital era. These initiatives reflect the students' commitment to integrating traditional *Pesantren* values with modern technology to generate adaptive and competent students in the digital era.

Based on the background above, this study aims to identify and describe education transformation in traditional character-based Islamic boarding schools in educating Generation Z, focusing on the Al-Anwar III Sarang Rembang Islamic Boarding School. This study is expected to provide theoretical and practical contributions to the development of an adaptive Islamic boarding school education model that is still rooted in tradition and be a reference in strengthening the character of students amidst the increasingly complex flow of changes in modern times.

METHOD

This study uses a descriptive quantitative approach to identify and describe the form of traditional character-based education transformation in educating Generation Z at the Al-Anwar III Sarang Rembang Islamic Boarding School. This approach was chosen to explain objectively based on numerical data collected through questionnaires, observations, and interviews (Creswell, 2014). The population in this study was students who studying at STAI

Al-Anwar Sarang Rembang. The sampling technique used was stratified random sampling to ensure representation of the existing population.

The research instrument used was a closed questionnaire based on a four-point Likert scale, which was designed to measure three leading indicators: (1) internalization of traditional character values, (2) integration of technology in the learning process, and (3) the suitability of the educational approach to the characteristics of Generation-Z. The validity of the instrument content was tested through expert assessments in Islamic education and learning technology. In contrast, the reliability test was carried out using the Cronbach's Alpha value (Fraenkel, Wallen, & Hyun, 2012).

The collected data were analyzed using quantitative descriptive statistics with the help of SPSS software version 22. This analysis includes frequency distribution, percentage, and average value of respondents on each indicator. In addition to quantitative data, this study is supplemented with field observation data on the activities of STAI Al-Anwar Sarang students. Observation data strengthens the interpretation of survey results and provides a more comprehensive contextual picture (Miles, Huberman, & Saldaña, 2014).

RESULT AND DISCUSSION

This study aims to describe the transformation of education at the Al-Anwar III Sarang Rembang Islamic Boarding School towards Generation Z through a *traditional-oriented-character-based approach*. The instrument used was a questionnaire consisting of 25 statement items divided into three leading indicators, namely: (1) internalization of traditional character values, (2) integration of technology in the learning process, and (3) suitability of the educational approach to the characteristics of Generation Z. From the validity test that has been carried out, the 25 statement items meet the valid criteria summarized in Table 1 below.

Table 1. Summary of Questionnaire Validity Test

Items	$R_{obtained}$	R_{table}	Decision
S001	0.526	0.254	Valid
S002	0.663	0.254	Valid
S003	0.551	0.254	Valid
S004	0.528	0.254	Valid
S005	0.567	0.254	Valid

S006	0.596	0.254	Valid
S007	0.417	0.254	Valid
S008	0.643	0.254	Valid
S009	0.585	0.254	Valid
S010	0.497	0.254	Valid
S011	0.668	0.254	Valid
S012	0.620	0.254	Valid
S013	0.574	0.254	Valid
S014	0.471	0.254	Valid
S015	0.571	0.254	Valid
S016	0.463	0.254	Valid
S017	0.319	0.254	Valid
S018	0.547	0.254	Valid
S019	0.515	0.254	Valid
S020	0.691	0.254	Valid
S021	0.572	0.254	Valid
S022	0.623	0.254	Valid
S023	0.407	0.254	Valid
S024	0.579	0.254	Valid
S025	0.397	0.254	Valid

Furthermore, the questionnaire that has met the valid criteria, its reliability is tested with the Cronbach Alpha *Product Moment Coefficient*. The reliability test indicates that the questionnaire is reliable, with a coefficient of 0.896. The questionnaire consists of three indicators with 25 statements summarized in Table 2 below.

Table 2. Research Questionnaire Grid

Indicator	Statement	No. Question Item
Internalization	Students are accustomed to living independently	14

of Traditional	when they enter the Islamic boarding school.	
Character	The value of simplicity is maintained in the daily	15
Values	lives of students.	
	Manners towards teachers are the primary focus	16
	of Islamic boarding school education.	
	Routine activities such as istighotsah, shalawat,	17
	and dhikr are still maintained.	
	Time discipline is implemented through a strict	18
	daily activity schedule.	
	Santri is trained to serve and help others.	19
	Character education is the primary foundation	20
	before academic lessons.	
	Islamic boarding schools teach the importance of	21
	gratitude and patience in life.	
	Students are accustomed to speaking politely and	22
	being careful with their tongues.	
	Islamic boarding school traditions, such as	23
	studying yellow books “ <i>Kitab Kuning</i> ”, are still	
	preserved.	
	The habit of living in a congregation trains	24
	tolerance and togetherness.	
	The values of obedience, such as obeying the	25
	orders of teachers and kyai, are highly respected.	
Technology	My Islamic boarding school has started using	1
Integration in	technology in learning.	

the Learning Process	Teachers use social media as an educational tool.	5
	Learning applications such as Zoom or Google Classroom have been introduced.	7
	Technology is used to strengthen Islamic values, not replace them.	10
	Islamic boarding schools are open to collaboration with external institutions (schools/universities)	13
The Suitability of Educational Approaches to Generation-Z Characteristics	The learning method is adapted to the learning style of Generation Z students.	2
	Students are equipped with basic digital skills to support learning.	3
	Project-based learning has begun to be implemented in Islamic boarding schools.	4
	Students are involved in open discussion activities to hone critical thinking.	6
	The Islamic boarding school provides digital literacy training to students.	8
	Curriculum changes reflect the needs of the modern era.	9
	Students are encouraged to be creative and innovative in learning.	11
	Learning activities are not only limited to the classroom but also through field practice.	12

In addition to the summary data of the questionnaire validity test and the questionnaire grid above, the following are the results of the questionnaire data recapitulation per indicator presented in Table 3.

No	Indicator	Percentage (%)
1	Internalization of traditional character values	70.22
2	Integration of technology in the learning process	57.13
3	The suitability of educational approaches to the characteristics of Generation Z	57.04

After the research results explained above, the next step is an in-depth interpretation process to link the findings with theory, previous research, and the underlying context. The following discussion aims to explain the meaning of the data and provide conceptual and practical contributions to the development of studies in Islamic Education in the study of "Transformation of Islamic Boarding School Education and Tradition-Based Character Development for Generation-Z," as follows.

Internalization of Traditional Character Values

The study results showed that the internalization of traditional character values obtained a percentage of 70.22%, becoming the indicator with the highest achievement. This showed that traditional character education at the Al-Anwar III Sarang Islamic Boarding School was still the primary basis for the formation of the personality of students. Character values such as independence, simplicity, manners towards teachers, routine congregational worship, time discipline, service, and preservation of the tradition of studying the yellow book "*Kitab Kuning*" continue to be applied consistently. The instillation of these values was carried out through an exemplary approach, habituation, and daily routines.

This finding was in line with an article entitled "The Role of Islamic Boarding Schools in Character Education in the Era of Globalization," which explains that Islamic boarding schools play an essential role in character education amidst the challenges of globalization. *Pesantren* functions as guardians and preservers of religious values, reformers of spiritual understanding, inspirators, motivators, and dynamic agents of development at the local and regional levels. This role is carried out through the integration of academic and non-academic

Activities that emphasize the formation of noble morals (*akhlakul karimah*) and the spiritual intelligence of students (Silfiasari, M, & Zhafi, AA, 2020).

Table 4. Percentage Details of Internalization of Traditional Character Values

No	Statement	Percentage Agree (%)
1	Students are accustomed to living independently from the moment they enter the Islamic boarding school.	78.3
2	The value of simplicity is maintained in the daily lives of students	74.5
3	Manners towards teachers are the primary focus of Islamic boarding school education	82.0
4	Routine activities such as istighotsah, shalawat, and dhikr are maintained	70.8
5	Time discipline is implemented through a strict daily activity schedule.	67.1
6	Santri are trained to serve and help others	68.4
7	Character education is the primary foundation before academic lessons	69.6
8	Islamic boarding schools teach the importance of gratitude and patience in life.	71.2
9	Students are accustomed to speaking politely and being careful with their tongues.	73.5
10	Islamic boarding school traditions, such as studying yellow books, " <i>Kitab Kuning</i> " are still preserved	75.0
11	The habit of living in a congregation trains tolerance and togetherness	72.5
12	The values of obedience, such as obeying the orders of teachers and kyai, are highly respected.	85.1
Average		70.22 %

The average percentage value above shows the consistency of internalization of character values in the Al-Anwar III Sarang Islamic boarding school environment.

Technology Integration in the Learning Process

The technology integration indicator obtained a percentage of 57.13%, indicating that Al-Anwar III Islamic Boarding School has begun to adapt technology, although it is not yet optimal. The following is a recapitulation of technology integration in the learning process.

Table 5. Details of the Percentage of Technology Integration in the Learning Process

No	Statement	Percentage Agree (%)
1	Islamic boarding schools begin using technology in learning	60.2
2	Teachers use social media as an educational tool	55.3
3	The use of learning applications such as Zoom or Google Classroom has been introduced	58.6
4	Technology is used to strengthen Islamic values, not replace them.	61.7
5	Islamic boarding schools are open to collaboration with external institutions (schools/universities)	49.3
Average		57.13%

From the details of the above percentage, the adaptation of the technology was carried out by collaborating with STAI Al-Anwar Sarang Rembang through units, such as *LPM Garda Pena*, holding Journalism classes to teach news writing skills, interviews, and digital media management. Other activities included visits to the editorial offices of NU Online *JATENG* and *Suara Merdeka* to learn media management.

In addition, the IQT Student Association held a Quranic Literacy Seminar with the theme of utilizing digital platforms for preaching and Quranic education. P3M STAI Al-Anwar also held a Repository Workshop to improve the capacity of digital data management in the academic environment. PGMI students were involved in the use of online platforms and digital literacy training, improving their competence as prospective educators in the

digital era. These initiatives reflected the students' commitment to combining traditional Pesantren values with modern technology. These activities have a significant impact on the management of the website and the entrepreneurship of the *Pondok Pesantren*.

This is in line with the findings in the journal "*Pesantren in the Digital Era: Between Tradition and Transformation*," which revealed that tradition-based Islamic boarding schools have begun to selectively carry out digital transformation to maintain the identity of the Islamic boarding school. Islamic boarding schools tend to be selective about the types of technology that enter so as not to shift the main values that have been passed down from generation to generation (Saini, 2024).

In addition, research in "*Transformation of Islamic Boarding School Education through Integration of Information and Communication Technology*" shows that the application of ICT has improved the quality of learning, expanded access to educational resources, and facilitated more efficient management. However, challenges such as limited infrastructure and resistance to change among teachers and students still need to be overcome (Mukarom et al., 2023).

It is important to note that although technology can enhance the effectiveness of learning, the challenges of technology accessibility and the need to maintain the noble values of Islamic boarding schools remain significant concerns. Therefore, a comprehensive strategy is needed to overcome these obstacles and ensure that technology integration can contribute optimally to educational transformation in Islamic boarding schools (Arroyan et al., 2025).

The Suitability of Educational Approaches to Generation-Z Characteristics

This indicator obtained a percentage of 57.04%, which indicated that Islamic boarding schools have begun to adjust learning methods to the characteristics of Generation Z. Participatory learning methods such as open discussions, digital literacy training, and the application of project-based learning have been implemented. However, their implementation still needs to be improved. The following is a recapitulation of the suitability of educational approaches to the characteristics of Generation Z.

Table 6. Details of the Percentage of Matching Educational Approaches with Generation-Z Characteristics

No	Statement	Percentage Agree (%)
1	The learning method is adapted to the learning style of Generation Z students	58.9
2	Students are equipped with basic digital skills to support learning	54.3
3	<i>Project-based</i> learning is starting to be implemented in Islamic boarding schools	55.7
4	Students are involved in open discussion activities to hone critical thinking.	59.4
5	Islamic boarding schools provide digital literacy training to students	56.1
6	Curriculum changes reflect modern needs	57.0
7	Learning activities are not limited only to the classroom but also through field practice.	59.3
Average		57.04%

One of the real implementations of PjBL in Islamic boarding schools is through the *Fiqh* Deliberation activity, where students deliberate to resolve Islamic legal issues based on the yellow book or “*Kitab Kuning*” and *Sharia* arguments. In this activity, students are trained to identify problems from actual *Fiqh* cases in the boarding school or community environment and then compile real projects in the form of resolving cases through deliberation forums. They analyzed the law, arguments, and opinions of scholars as a form of problem solving, then reflected on the results through presentations and open discussions. This activity not only hones critical thinking but also communication skills and the ability to apply *Fiqh* knowledge contextually. This was also studied in the *Al-Tadzkiyyah Journal*, that *Fiqh* deliberation was an effective form of problem-based learning in Islamic boarding schools. This activity actively involved students in learning, improving critical thinking skills, and strengthening understanding of *Fiqh* material (Rohman, 2017).

In addition, the implementation of PjBL was also seen in the *Santri Clothing and T-Shirt Convection* activity unit, where students are actively involved in the convection business, starting from the process of identifying the needs of Islamic boarding school products and market opportunities, design planning, production, pricing, to product marketing. The production process was carried out by students and then evaluated through reports on production results, sales, and challenges faced. This activity fosters an entrepreneurial spirit, production skills, business management, and marketing skills among students.

In independent production, the Islamic boarding school also manages the *DSA Al-Anwar Mineral Water Production* unit, which was fully managed by students. This activity begins with identifying the need for quality drinking water and business opportunities, followed by project planning including production, packaging, and distribution processes. Implementation of production and marketing, and ends with reflection in the form of production evaluation, product quality, and distribution of sales results. This program could improve production skills, business management, and teamwork in the student environment.

This was explained on the website of the Al-Anwar III Islamic Boarding School, that the Islamic Boarding School Economic Agency (*BEKATREN*) is an institution under the Al-Anwar III Foundation that develops the economy of the Al-Anwar 3 Islamic Boarding School. It was founded in 2019 to realize economic independence and support the Islamic boarding school's vision to produce knowledgeable, moral graduates based on *Ahlussunnah wal Jama'ah*. *BEKATREN* currently manages the original *AWRE Convection*, *AWRO* refill water, and established the Al-Anwar III *Kopontren* Consumer Cooperative, which was inaugurated by the Ministry of Law and Human Rights on May 6, 2021, as a form of commitment to building the independence of the Islamic boarding school (*PPalanwar3.com*).

CONCLUSION

The educational transformation at Pesantren Al-Anwar III Sarang Rembang for Generation Z has been carried out through a traditional, character-based approach and has proven effective. Traditional character values such as independence, simplicity, manners, discipline, and love for pesantren traditions remain preserved, with an average achievement of 70.22%. Technology integration in the learning process reached 57.13%, indicating that the use of technology is still in its early stages and requires further optimization. The pesantren has

Begun utilizing digital platforms, enhancing digital literacy, and establishing external partnerships to enrich students' learning experiences. The alignment of the educational approach with Generation Z's characteristics scored 57.04%, implemented through methods such as project-based learning (PjBL), open discussions, digital literacy training, and the development of student business units. Overall, Pesantren Al-Anwar III has succeeded in maintaining traditional values while adapting to the challenges of the digital era and the traits of the younger generation. Future studies are recommended to conduct longitudinal research on the long-term impact of technology integration, explore the challenges of digital adoption in pesantren, compare technology usage across different pesantren, and examine the role of external collaborations in supporting educational transformation.

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