

## **Technology-Based Character Education In Islamic Education (Case In MAN 1 Darussalam Ciamis and SMA Islam 5 Al-Azhar Cirebon)**

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### **ABSTRACT**

*This study aims to describe character education through technology-based which is carried out in Islamic schools, namely in the form of extracurriculars at MAN 1 Darussalam Ciamis and digital literacy which is included in the curriculum at Al-Azhar Islamic High School 5 Cirebon. This research was conducted in April-May 2022, with the subject of research by the Vice Principal of the Curriculum section and students. The method used is a descriptive method using a qualitative approach. Data collection used several guidelines including interview guidelines, documentation studies, and observations. The results of the research at MAN 1 Darussalam Ciamis showed that: (1) Robotics extracurricular activities are carried out every Thursday at 15.00-end; (2) Activities are carried out at the Robotics Lab, Integrated Religious Laboratory Building; (3) Activities are carried out with the supervision of a teacher and coach; (4) Material taught in robotics extracurricular activities includes material training and work programs. The results of research at Al-Azhar Islamic High School 5 Cirebon show that: (1) Digital literacy activities are included in the school curriculum; (2) Digital literacy activities are carried out in the School Mosque Hall; (3) The activity is attended by all students of class X, XI and XII every Friday at 07.00-08.00 WIB; (4) Digital literacy activities are carried out with the supervision of the Vice Principal of the Curriculum Section and several teachers; (5) The material taught includes training on various digital applications that are useful in learning, and work programs.*

**Keyword: Technology-Based Education; Character Education; Robotic; Digital Literacy**

## **A. INTRODUCTION**

Science and technology continue to develop and it extends to various fields of life, including education (Meliani, etc. 2021). While Alisyahbana states that technology is a way to do something to meet human needs with the help of tools and reason to strengthen or make more powerful members of the body, five senses, and the human brain (Priatna, Jamaluddin, dan Hasanah 2018). According to Law No.20 of 2003 concerning National Education System Article 3, national education functions to develop capabilities and shape the character and civilization of a dignified nation to educate the life of the nation, aiming at developing the potential of students to become human beings who believe in and fear God (Istiana 2022). The Almighty noble, healthy, knowledgeable, capable, creative, independent, democratic, and responsible citizens. Referring to the objectives of national education, our educational goals are not only emphasizing the development of the intellectual aspect of the student but also the emotional and spiritual aspects or character of students (Meliani, Sunarti, dan Krisnatuti 2014). The use of technology in education allows schools and parents to recognize the character of students in greater depth. Technology can also help their role in providing learning material that is more easily absorbed and understood by students (Mayasari, Supriani, dan Arifudin 2021).

Globalization caused by the rapid development of science and technology, both in information, communication, and transportation, has made the world more transparent, as if the world had become a new structure, namely a global structure (Anthony Jnr., Abdul Majid, dan Romli 2019). It is, of course, very impactful for Indonesia on the structure of society, nation, and state. All of this will significantly affect the younger generation's thinking, mentality, and attitudes, which are the hopes of the nation's future generations (Fransyaigu, etc. 2021). In this regard, all Indonesian citizens, especially the younger generation of Indonesia, need to be equipped with citizenship education with a good and dynamic understanding of national and state awareness to foster an attitude of self-sacrifice for the nation and state and to foster a spirit of noble patriotism towards the nation and state Indonesia. The current development of technology has had quite a lot of influence on various aspects of human life; technology is helping humans in the field of work and has become a necessity that humans cannot release (Hamilton 2018). Along with the increasingly advanced times, technology and information development and communication also go fast. This is because the millennial generation no longer reads print media (Jayalakshmi dan Mahalingam 2020).

Erving Goffman revealed that every internet user on social media uses dramatic metaphors to explain how the perpetrators of interactions in cyberspace treat themselves. In line with this, humans can create as many identities as possible according to the roles they take and want in this technological era, regardless of their surroundings (Yigitcanlar, Mehmood, dan Corchado 2021). According to Larry and Richard E. Potter, social media also brings drastic changes to the development of early adults/millennials, especially in social life, first, the presence of social media without realizing it brings changes in beliefs, values, and attitudes (Sukarman dan Soeprapto Putri 2018). Character learning is carried out by referring to normative and holistic principles, thus shaping students to become strong personalities, characters, refined hearts, strong wills, and glorious achievements. Character learning must be well designed by the teacher and the help of the principal so that learning will be completely independent of administrative activities (Eka dan Pandin 2021). Ideally, learning should not be dominant, and character learning can be carried out based on strengthening the thinking, behaving, and acting of students. That is the essence of the purpose of education, namely the emotional aspects of attitudes, knowledge, and skills (Supriani, etc. 2022).

Strengthening character education is an issue that is inevitable and should be implemented in the face of the challenges of the industrial era 4.0. The reason is the era of the Industrial Revolution 4.0 provide opportunities and challenges that are different from the previous period (Musthafa dan Meliani 2021). In the 4.0 era, the massive use of Internet technology has become a necessity in all dimensions of life, including education. The 4.0 Industrial Revolution provides new challenges for the young generation of Indonesia (Sulistiyani, etc. 2021). Even the theoretical and practical knowledge is not enough to equip them to survive in this era of smart technology, disclosure of information access enables people to receive a variety of information and could eventually affect even change their character, way of thinking, and behaving (Aziz 2020). Islamic Religious Education is part of the national curriculum that is taught from early childhood education to higher education. When entering the era of the industrial revolution 4.0, things that need to be understood are not how to make a man a robot but what is expected is how the technology can be utilized for human welfare. Technology is positioned only as limited media or instruments for humans (Ghofur, Asiyah, dan Shofiyullah 2016).

Rapid changes in life and the demands of a globalized world must be anticipated and responded to by education. The role of Islamic Education in the human resource process is the guidance and formed individuals to have character, spirituality, and adequate

competence. In the learning process in modern times, technology is already commonly used in schools. The two schools that became the locus of research were MAN 1 Darussalam Ciamis and SMA Islam Al-Azhar 5 Cirebon. The two Islamic Education-based schools have innovations in the use of digital education, in addition to using LMS (learning management systems), each has a superior technology-based program. MAN 1 Darussalam Ciamis has organized extracurricular activities for its students since 2018, and Al-Azhar Islamic High School 5 Cirebon includes digital literacy activities in its curriculum. This study intends to describe the technology-based activities organized by the two schools.

## **B. METHOD**

This research uses a qualitative approach and a descriptive method. The data was generated through observation, interviews, and literature study research (Sugiyono 2015). The source of research and data produced in this study is primary data, namely books and journals related to this research in a theoretical study of technology-based character education in Islamic education. The secondary data came from interviews, observation, and documentation. The data analysis technique used to get the desired conclusion is deductively, namely through the way of concluding things that were originally general to special (Arikunto 2002). The research was conducted in April-Mei 2022. The locus of this research is MAN 1 Darussalam Ciamis and Al-Azhar Islamic High School 5 Cirebon. The subjects of this research are the Vice Principal of the Curriculum Section and the students.

## **C. RESULT AND DISCUSSION**

### **1. Technology-base Education in Islamic Education**

Education is a learning process for students to be able to understand, understand, and make humans more critical in thinking. Learning is done both in terms of the subject matter at school and the attitude that must be done by a teacher toward students so that students can imitate the good things done by teachers (Arwen dan Puspita 2020). One of them uses a strategy. In the form of a special strategy at the school level, it is expected that learning by leading to the formation of character can be achieved, namely forming a nation of morality, tolerance, cooperation, dynamic development, and orientation. Technology is very influential in aspects of human life and plays a role in the life of the wider community, especially the role of technology in the field of education (Handayani, etc. 2020).

In education itself, technology now has its role in the teaching and learning process. The teacher's role is very influential in the character development of students, each behavior

is always imitated by students, especially elementary school students who are easier to imitate what teachers do such as dressing, speaking, and so forth (Ihsan, etc. 2021). So a teacher plays an important role in developing student character because teachers must be able to model good things for their students. Character is a way of thinking and behaving that characterizes each individual to live and cooperate, both within the scope of family, community, nation, and state. Good character individuals are individuals who can make decisions and are ready to take responsibility for the consequences of the decisions they make (Amka dan Mirnawati 2020).

Character education should bring students cognitive recognition of values, and the appreciation of values effectively. And finally to experience real value. Besides that, the character is a collection of values that lead to a system, which underlies the thoughts, attitudes, and behaviors displayed (Batubara, etc 2022). Lickona states there are 11 principles for character education to be effective: (1) develop core ethical values and supporting performance values as a foundation; (2) define comprehensive "character" that includes thoughts, feelings, and behavior; (3) use a comprehensive, deliberate and proactive approach; (4) create a caring school community; (5) allow students to take moral action; (6) create a meaningful and challenging academic curriculum that respects all students, develops character, and helps students succeed; (7) try to encourage student self-motivation; (8) involve school staff as a learning and moral community; (9) foster togetherness in moral leadership; (10) involve families and community members as partners, and (11) evaluation of the character of the school, the staff's function manifests good character reflect curiosity and curiosity about everything that is seen, heard and learned, in more depth. In other meaning, the character can also be seen in nationalism (Solihatin, etc 2021).

Nationalism attitudes and actions that place the interests of the nation and the State above personal or individual and group interests including a love of the motherland, attitudes, and behaviors that reflect a sense of pride, loyalty, care, and high respect for language, culture, economy, politics, and so on, so that it is not easy to accept offers from other nations that can harm the nation itself (Lee 2019). Based on the previous definition, nationalists only limited the relationship between the state and its citizens as a reflection of the nation's character. The operationalization of student character, operationally based on several definitions, deals with the following (Ulewicz dan Beatty 2001).

First, appreciating achievement, which is an open attitude towards the achievements of others and recognizing one's shortcomings without reducing the spirit of higher achievement, communicative, happy to be friendly or proactive, namely open attitudes and

actions towards others through polite communication to create good collaborative collaboration; peace of love, namely attitudes and behaviors that reflect an atmosphere of peace, security, calm and comfort for their presence in a particular community or community. Second, likes to read, which is the habit of without coercion to provide a special time for reading various information, both books, journals, magazines, newspapers, and so on, giving rise to policies for him. Third, care for the environment, namely attitudes and actions that always try to maintain and preserve the surrounding environment. Fourth, social care, namely attitudes and actions that reflect concern for other people and the people who need it. Responsibility, namely the attitude and behavior of a person in carrying out their duties and obligations, both related to oneself, society, community, nation, and religion (Charniak 2018).

## **2. Robotic extracurricular at MAN 1 Darussalam Ciamis**

Extracurriculars can be interpreted as an educational activity that is carried out outside of face-to-face class hours. These activities are carried out inside and/or outside the school environment to expand knowledge, improve skills, and internalize religious values or rules as well as social norms both locally, nationally, and globally to form plenary people (Azman, Sirat, dan Ahmad 2014). In other words, extracurricular is an educational activity outside of class hours aimed at helping the development of students, according to their needs, potentials, talents, and interests through activities specifically organized by educators and or educational personnel who are capable and authoritative in schools (Harerimana Jean Paul 2019).

Robots are machines assembled by humans, but they work tirelessly. While robotics is the science and technology of robots, their design, manufacture, and application. Robotics requires close cooperation from electronics, mechanics, and software. The strategy of the robotic extracurricular guidance teacher is to instill spiritual intelligence and intellectual and emotional intelligence. The guidance teacher also instills spiritual values in students through *uswatun hasanah*, so that students master the skills of science and technology, as well as the morals of honesty, *tawadhu'*, and the value of *ta'awun* to themselves and others (Rohaenah dan Hasanah 2021).

In its journey, which has reached the age of 41 years, MAN Darussalam Ciamis is committed to the applicable rules which are then developed with the direction of madrasah policies and the utilization of the potential of educational personnel, administrative personnel, and facilities at MAN Darussalam Ciamis. This condition shows the identity of

the school in producing quality graduates. This can be proven by the various successes achieved by students. MAN 1 Darussalam Ciamis has a vision of realizing a Madrasah that excels in leadership and teaching based on Islamic boarding schools and has a global perspective.

Robotic extracurriculars at MAN 1 Darussalam Ciamis are based on the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 62 of 2014 concerning Extracurricular Activities in Basic and Secondary Education. In its implementation, robotic extracurriculars involve all school parties, namely the principal, vice principal for student affairs, students, supervising teachers, coaches, parents, and sponsorships that support funding for large activities. Everyone involved in the implementation process has their role, as well as schools that support the licensing process, students play a role in providing input, coaches play a role in providing knowledge, and students play a role in participating in the implementation of robotic extracurricular activities, and parents play a role in supporting funding in robotic extracurricular activities.

The implementation of robotic extracurriculars is carried out every Thursday after school hours, which is usually at 15.00 PM-end, but if there is a competitive activity, the implementation of robotic extracurricular activities can increase in days according to the agreement of students who take part in the competition. The implementation of robotic extracurricular activities is carried out at the Robotics Laboratory. The implementation of robotic extracurricular activities is usually dominated by classes X and XI, because class XII is busy preparing for the National Examination. However, class XII still had time to come to participate in guiding his younger siblings in carrying out robotic extracurricular activities, even though they guided him in preparing for the competition to be followed.

Robotic extracurricular activities begin with joint prayer. Furthermore, the core activity is carried out in the form of giving material or ending with another joint prayer. This robotic extracurricular activity is one of the activities that many people are interested in. In the implementation of robotics extracurricular activities, they are guided directly by trainers and also guided by seniors in class who share knowledge about science or experience in making robots or competitions. Many things are learned in the implementation of robotics extracurricular activities including material training on robotics such as basic things in making robots to how to make a robot according to the module.

The modules are created jointly between the supervisor and the supervising teacher. In addition to module training in robotic extracurriculars, there is also preparatory training for participating in competitions, or preparation for the implementation of large activities

contained in the work program In the implementation of robotic extracurricular activities also has several obstacles, one of which is the problem of room and time. Where there is still a clash of schedules with other activities, then the number of students who take part in robotic extracurricular activities makes it difficult to equalize the level of students' ability to provide metering, as well as the lack of facilities and infrastructure.

The extracurricular supervisory teacher always instills the values of honesty, responsibility, *tawadhu*, and *ta'awun* and becomes a *uswatun hasanah* for all his learners when guiding robotic extracurriculars. The extracurricular guidance teacher plays a role in instilling the value of honesty starting from oneself, namely by providing good *tauladan* Suri to their students. The way of teaching guidance teachers is relaxed but serious so that the child will be accustomed to discipline, honesty, *tawadhu*, *ta'awun*, and responsibility. The achievements of the Man 1 Darussalam Ciamis Robotics Extracurricular are as (1) National 1st Winner, Madrasah Robotics Competition (MRC) Kemenag RI 2019, Design and Build Category with the theme of “the Applicable and Useful Robot to Save the Earth”, namely automatic garden/rice sprinklers with solar energy; and (2) National 2nd Place, Madrasah Robotics Competition (MRC) in 2021, Design and Build Category with the theme of “the Robot for Health Care to Prevent Covid-19”, which is in the form of an automatic charity box so that mosque visitors can still carry out social distancing.

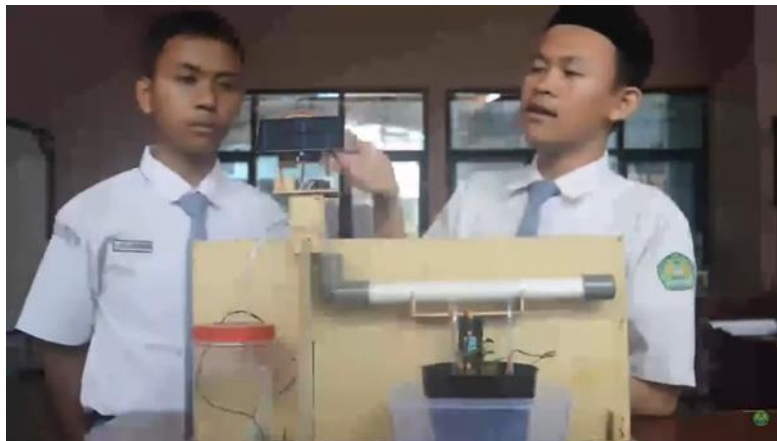


Figure 1. Students are presenting the operation of solar-energy-based automatic sprinkler

A solar panel is a device consisting of a solar cell that converts light into electricity. They are called solar over the Sun or "sole" because the Sun is the strongest source of light that can be utilized (Sumbodo, etc 2018). Solar panels are often called photovoltaic cells, photovoltaic can be interpreted as "light-electric". Solar cells or PV cells rely on the photovoltaic effect to absorb the Sun's energy and cause currents to flow between two oppositely charged layers. The findings of the students represent sustainable technology.



The use of renewable energy is better for the environment, taking energy from the wind, water, or the sun does little to pollute the earth (Yamin dan Syahrir 2020).

Affordable and green energy is the seventh goal of the Sustainable Development Goals; ensuring access to affordable, reliable, sustainable, and modern energy for all is a core value at the UN Sustainable Development Summit held in September 2015. In Islamic education, the master plan of Indonesia's Government 2019-2024, one of the strengthening strategies of the halal value chain is through the application of renewable energy clusters. It means that renewable energy plays an urgent role to be applied (Arifin dan Muslim 2020).

The urgency of green technology as a future sustainable development is on the contrary situation where less information on green technology was given at the school education level (Supriani & Devri, 2021). It turns into a major issue so education and socialization of green technology to secondary school students could fix this problem. The learning of most current science and technology is very much required in the revolution industry 4.0 these days to support and provide a solution to the Indonesian problem shortly. This community service intends to strengthen the student's understanding and knowledge of green technology by giving enlightenment on the use of green technology regularly. Increasing students' enthusiasm for science and technology with the current education approach is also another objective of this casework (Amka dan Mirnawati 2020).

After completion of the program, participants are expected to gain a new perspective and insight into green technology and be able to develop more advanced green technology in Indonesia hereinafter (Meliani, Natsir, dan Erni 2021). The realization of educational robots (wheeled, legged, and hand robots) is composed of Arduino devices as the brain processing robot movements, line Sensors as line detectors, Motor Drivers as motor rotation controllers, downloaders as tools to enter programs, and robotic mechanics as a place to install devices in the form of wheeled, legged, and hand robots. The performance of robot learning media (wheeled robots, legs, hands, and sensors) can work according to their purpose, which is to be able to be assembled according to the shape of each robotic mechanic.

Modules make it easier for students to learn to apply robotic learning. Students can play an active role in the process of making robots and easily understand the use of Arduino microcontrollers, especially programming. Robot programming can be done well in running robots according to the instructions specified (Arwen dan Puspita 2020). The realization of the robot companion module consists of several learning activities, namely robot recognition materials, making wheeled robots, legged robots as well as hand robots, and programming

algorithms. Modules contain discussions of robot theory, assembly, and programming. Modules can be used well by students in the process of making robots, namely the assembly and programming of robots (Faridah, Afifah, dan Lailiyah 2022).

### **3. Digital Literacy at SMA Islam Al-Azhar 5 Cirebon**

Digital literacy is the knowledge and ability to use digital technology, communication tools, or networks in the process of finding, evaluating, using, and creating information, as well as utilizing it in a healthy, wise, intelligent, careful, precise, and law-abiding manner by its usefulness to foster communication and interaction in Gilster's daily life (Jewitt 2008). Digital literacy is the ability to use technology and information from digital devices effectively and efficiently in various contexts such as academics, careers, and daily life. The Ministry of Education and Culture defines digital literacy as the ability to use information and communication technology (ICT) to communicate content/information with cognitive and technical skills (Faridah, Afifah, dan Lailiyah 2022).

The concept of digital literacy was first raised by Paul Gilster in 1997 in a book entitled *Digital Literacy*. Gilster defines it simply as 'literacy in the digital age, or the ability to understand and use information through a variety of digital sources. In its development, digital literacy, or precisely digital literacies was defined as 'practices of communicating, relating, thinking and 'being' associated with digital (Husna dan Novita 2022). This definition comes from the root conception of the development of digital media as a social phenomenon, a social phenomenon, which carries various economic, social, and political consequences. The term 'practices' was chosen because this concept includes all means to make active use of literacy, including the meaningful activities underlying it. In a virtual world where the internet is a very important new medium in everyday life, it requires understanding and agency of its users, because technology is just a tool that does not determine how we should act. For this reason, a series of understandings and actions are needed by applying various new media literacy aka digital literacy (Simanjuntak 2022).

The importance of digital literacy is not only due to the high exposure to the media, but also the existence of several other factors. First, is the important role of information in the democratic process. Second, is the important role of cultural and civic participation. Third, the development of popular culture has made children and adolescents increasingly access digital media. In the context of new media characterized by the convergence and interactivity of the media, literacy refers not only to digesting media content but also to the production of multimedia and even interactive texts in the context of hypermedia. This is due to the very rapid increase in internet usage (Yusuf dan Saifudin 2022).

Digital media is a form of communication cited by Buckingham and contemporary media. As part of media literacy, digital literacy itself is not an entirely new concept. In addition to digital literacy, there is a concept called computer literacy that appeared in the 1980s. This concept is considered inadequate for media literacy needs because it only concerns technical computer literacy or computer mastery (Rodiyah 2021). Thus came the concept of digital competence, because this concept is not only related to the technical mastery of computers, but also knowledge and emotions in the use of digital media and devices including the Internet.

Another concept that is also related to digital literacy is information literacy, which gives the ability audience to digest, understand, choose, and retrieve information amid a flood of information. Regardless of your point of view, the concept of digital literacy does not stand alone but is related to some other concepts of literacy. Digital literacy is suggested in this study because it believes that information literacy only limits the ability to understand and select information, computer literacy or ICT only focuses on mastering tools, while digital literacy focuses on digital platforms, putting mediation as the main problem (Faridah, Afifah, dan Lailiyah 2022).



Figure 2. Students are attending the digital literacy class

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digital literacy focuses on digital platforms, putting mediation as the main one. masalah (Simanjuntak 2022).

Al Azhar Islamic High School 5 Cirebon was established in 1995 and is located on Jl. Pilang Setrayasa No.31 Cirebon. This school has advantages and achievements that are well known by the people of Cirebon. Al Azhar Islamic High School is built on an area of 5 hectares of land and has been built on an area of 1.5 hectares including school buildings, and mosques. While the number of 32 teachers who have Bachelor's degrees is 26 and Masters are 6 people. The school has been Accredited A. This school is a leading Islamic school because it has produced graduates who can enter various excellent State Universities.

The initiation of this digital literacy class has been carried out since 2019. According to the principal, the initial meetings with the parents of the students, which are carried out periodically, complain that the child at home plays with more gadgets than studying until he forgets the time, forgets to study, and even forgets the assigned rote deposit. Then the child also seems to decrease and decrease his interest in learning and is even lazy to study. Children tend to disrespect and respect their parents and some even fight back against their parents. This problem then became the material for the team to determine the theme of digital literacy in building student character. The method used is a lecture with the technique of material presentation and discussion. Presentation of the material by providing an understanding of the concept of digital literacy that covers the lives of modern teenagers, introduction to several applications of technology and social media, and how to wisely use communication technology.

In addition, it also explained the concept of Islamic character building and the dissection of verses of the Quran and hadith related to the discussion. After the presentation, the material was continued with a discussion between the speaker and students to find out the student's responses and understanding as well as problem-solving solutions to the obstacles faced. Figure 2. shows activities for delivering digital literacy material in building student character. The discussion was marked by the enthusiasm of the students in asking questions and immediately seeing and practicing the use of digital technology with character. This is also an evaluation of students' understanding of digital literacy and using it responsibly in shaping student character. Then the activity continued with the willingness of students to become campaign ambassadors in the digital literacy movement (Novitasari dan Fauziddin 2022).

#### **D. CONCLUSION**

The existence of digital technology is a necessity that must be addressed wisely. Students must be given guidance and understanding of the use of digital technology so that they are ready to be formed into quality human resources. Robotic extracurricular activities at MAN 1 Darussalam Ciamis include material training such as learning from modules, mentoring on how to make various robots, and preparation for participating in competitions. The digital literacy movement incorporated into the school curriculum at Al-Azhar Islamic High School 5 Cirebon aims to foster digital awareness for students, provide space for students to learn using digital applications, develop ethics in using the internet and digital applications wisely, increase students' thinking creativity and foster the integrity of students and teachers to create learning environments that are ready to compete in the current 4.0 era. This study confirms that religious education values are the most ideal form of education and are assumed to be very powerful in supporting the development of technology-based education. This study also proves that religious values have given some contributions to increasing the capacity, knowledge, and understanding of technology-based education.

Strengthening character education through Islamic education became a strategic step in shaping the character of the young generation in the era of the industrial revolution 4.0. The reason is, that demographically 87.2% of Indonesian people are followers of Islam. It became a compulsory subject taught from early childhood education level to university to allow the formation of character gradually and continuously. In the era of information, access Openness allows people to receive a variety of information and could eventually affect or even change their way of thinking and behaving. Here, Islamic Religious Education acts as a facilitator that facilitates people to learn and practice and actualize all their potential through the guidance of Islamic teachings. Facing negative impact disruption, it has a cultural role and function that is an effort to preserve, develop and pass on the ideals of society. In the ideal function, it becomes the control value and steers the development of society.

In the aspect of learning, Islamic Religious Education promotes an exemplary student-centered approach that encourages students to have sufficient knowledge of social problems pressing (crucial) and cooperate to solve them. The formation of a religious character, self, and mutual help learners in the learning Islamic Religious Education implemented through character-based learning and habituation to carry out the rituals of worship and deepen spiritual values. As part of the national education system, it is the perfecting of social reconstruction-based curriculum-oriented learners the ability to adapt to the development of

the modern world that is highly competitive, but still-holistic integrative religious character. Thus, Islamic Education seeks to prepare a generation that will have character values, and religion and be able to prosper in life based on technology.

## REFERENCES

- Amka, Amka, dan Mirnawati Mirnawati. (2020). The Attitude of Islamic Religious Education Teachers Against the Implementation of Inclusive Education at the Elementary School Level. *Madrosatuna: Journal of Islamic Elementary School* 4 (2): 69–74. <https://doi.org/10.21070/madrosatuna.v4i2.795>.
- Anthony Jnr., Bokolo, Mazlina Abdul Majid, dan Awanis Romli. (2019). Green Information Technology Adoption towards a Sustainability Policy Agenda for Government-Based Institutions: An Administrative Perspective. *Journal of Science and Technology Policy Management*, 10(2): 274–300. <https://doi.org/10.1108/JSTPM-11-2017-0056>.
- Arifin, Syamsul, dan Moh. Muslim. (2020). TANTANGAN IMPLEMENTASI KEBIJAKAN ‘MERDEKA BELAJAR, KAMPUS MERDEKA’ PADA PERGURUAN TINGGI ISLAM SWASTA DI INDONESIA. *JURNAL PENDIDIKAN ISLAM AL-ILMI*, 3(1). <https://doi.org/10.32529/al-ilm.v3i1.589>.
- Arikunto, S. (2002). *Prosedur Penelitian Suatu Pendekatan Praktek*. Revisi IV. Jakarta: Rineka Cipta.
- Arwen, Desri, dan Dayu Retno Puspita. (2020). The Role of Technology on Students’ Character Education. *Journal of Physics: Conference Series* 1477 (4): 042070. <https://doi.org/10.1088/1742-6596/1477/4/042070>.
- Aziz, J.A. (2020). Potensi Manusia Perspektif Al-Qur’an dan Psikologi Behaviorisme dan Humanisme serta Implikasinya dalam Pendidikan. *Jurnal Qiro’ah*, 10(1): 1–13.
- Azman, Norzaini, Morshidi Sirat, dan Abdul Razak Ahmad. (2014). Higher Education, Learning Regions, and the Malaysian Transformation Policies. *Higher Education Policy*, 27(3): 301–21. <https://doi.org/10.1057/hep.2013.26>.
- Batubara, Ismail Hanif, Indah Purnama Sari, Putri Andini, Miftahul Jannah, Sahat Saragih, Bornok Sinaga, Edi Syahputra, dan Baihaqi Siddik Lubis. (2022). Bibliometric Mapping on the Research ‘Merdeka Belajar’ Using Vosviewer. *Jurnal Pendidikan Progresif*, 12(2): 477–86. <https://doi.org/10.23960/jpp.v12.i2.202207>.
- Charniak, Eugene. (2018). *Introduction to Deep Learning*. Cambridge, Massachusetts: The MIT Press.
- Eka, Rima, dan Moses Pandin. (2021). Analyzing The Importance of Character Education for Millennial Generations in The Digital Era. Preprint. other. <https://doi.org/10.20944/preprints202106.0348.v1>.
- Faridah, Nadia Risya, Eka Nur Afifah, dan Siti Lailiyah. (2022). Efektivitas Model Pembelajaran Project Based Learning Terhadap Kemampuan Literasi Numerasi dan Literasi Digital Peserta Didik Madrasah Ibtidaiyah. *Jurnal Basicedu*, 6(1): 709–16. <https://doi.org/10.31004/basicedu.v6i1.2030>.
- Fransyaigu, Ronald, Ramdan Asnawi, Ary Kiswanto Kennedy, Bunga Mulyahati, dan Dini Ramadhani. (2021). Technology-Based Character Education Through the ‘Moodle’

Application:” Dalam . Langsa, Aceh, Indonesia.  
<https://doi.org/10.2991/assehr.k.210909.079>.

- Ghofur, Abdul, Nur Asiyah, dan M Shofiyullah. (2016). PESANTREN BERBASIS WIRAUUSAHA (Pemberdayaan Potensi Enterpreneurship Santri di Beberapa Pesantren Kaliwungu Kendal). *Dimas: Jurnal Pemikiran Agama untuk Pemberdayaan* 15 (2): 19. <https://doi.org/10.21580/dms.2015.152.744>.
- Hamilton, Boni. (2018). *Integrating Technology in the Classroom: Tools to Meet the Needs of Every Student*. Second edition. Portland: International Society for Technology in Education.
- Handayani, Mustika Nuramalia, Mohammad Ali, Dinn Wahyudin, dan Mukhidin Mukhidin. 2020. “Green Skills Understanding of Agricultural Vocational School Teachers around West Java Indonesia.” *Indonesian Journal of Science and Technology* 5 (1): 21–30. <https://doi.org/10.17509/ijost.v5i1.22897>.
- Harerimana Jean Paul. (2019). CHARACTER EDUCATION THROUGH DIGITAL TECHNOLOGY IN THE CLASSROOM (ANALYSIS OF A FILM: FREEDOM WRITER BY RICHARD LAGRAVENESE, STARRED BY HILLARY SWANK). January. <https://doi.org/10.5281/ZENODO.2542299>.
- Husna, M. Faisal, dan Tri Reni Novita. (2022). Literasi Digital dalam Pembentukan Karakter Siswa di MTs Uswatun Hasanah Mirza Kota Binjai. *Jurnal Abdi Masyarakat Indonesia*, 2(1): 227–34. <https://doi.org/10.54082/jamsi.196>.
- Ihsan, Mahlil Nurul, Nurwadjah Ahmad, Aan Hasanah, dan Andewi Suhartini. (2021). ISLAMIC BOARDING SCHOOL CULTURE CLIMATE IN FORMING THE RELIGIOUS ATTITUDE OF ISLAMIC STUDENTS IN MODERN AND AGROBUSINESS ISLAMIC BOARDING SCHOOLS. 4 (2): 21.
- Istiana, Yuyun. (2022). Teaching Character Education with Technology for Early Childhood. 1(1): 8.
- Jayalakshmi, M, dan M Mahalingam. (2020). Green Technology: A Contribution to Sustainable Development in India. *International Research Journal on Advanced Science Hub* 2 (Special Issue ICIES 9S): 60–63. <https://doi.org/10.47392/irjash.2020.160>.
- Jewitt, Carey. (2008). Multimodality and Literacy in School Classrooms. *Review of Research in Education*, 32 (1): 241–67. <https://doi.org/10.3102/0091732X07310586>.
- Lee, C.C. 2019. “Community-based literacy practices with multilingual African immigrant girls in New York City.” *International Journal of Multicultural Education* 21 (2): 1–22. <https://doi.org/10.18251/ijme.v21i2.1800>.
- Mayasari, Annisa, Yuli Supriani, dan Opan Arifudin. (2021). Implementasi Sistem Informasi Manajemen Akademik Berbasis Teknologi Informasi Dalam Meningkatkan Mutu Pelayanan Pembelajaran Di SMK. *JHIP-Jurnal Ilmiah Ilmu Pendidikan*, 4 (5).
- Meliani, Fitri, Dindin Alawi, Yamin Mohamad, Muhibbin Syah, dan Mohamad Erihadiana. (2021). Manajemen Digitalisasi Kurikulum Di SMP Islam Cendekia Cianjur Kata Kunci. *JHIP-Jurnal Ilmiah Ilmu Pendidikan* 4 (7): 653–63. <https://doi.org/10.54371/jiip.v4i7.328>.

- Meliani, Fitri, Nanat Fatah Natsir, dan Haryanti Erni. (2021). Sumbangan Pemikiran Ian G. Barbour Mengenai Relasi Sains Dan Agama Terhadap Islamisasi Sains. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, 4(7): 673–88. <https://doi.org/10.54371/jiip.v4i7.331>.
- Meliani, Fitri, Euis Sunarti, dan Diah Krisnatuti. (2014). Faktor Demografi, Konflik Kerja-Keluarga, dan Kepuasan Perkawinan Istri Bekerja. *Jurnal Ilmu Keluarga & Konsumen*, 7 (3): 133–42. <https://doi.org/10.24156/jikk.2014.7.3.133>.
- Musthafa, Izzuddin, dan Fitri Meliani. (2021). Penerapan Metode Pembelajaran Islam Klasik Al-Zarnuji Di Era Revolusi Industri 4.0. *JIIP-Jurnal Ilmiah Ilmu Pendidikan* 4 (7): 654–67. <https://doi.org/10.54371/jiip.v4i7.329>.
- Novitasari, Yesi, dan Mohammad Fauziddin. (2022). Analisis Literasi Digital Tenaga Pendidik pada Pendidikan Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6 (4): 3570–77. <https://doi.org/10.31004/obsesi.v6i4.2333>.
- Priatna, Tedi, Dindin Jamaluddin, dan Aan Hasanah. (2018). The Development of Madrasah Laboratory in Islamic Higher Institution: A Case Study in Indonesia and New Zealand. Dalam *Proceedings of the International Conference on Islamic Education (ICIE 2018)*. Bandung, Indonesia: Atlantis Press. <https://doi.org/10.2991/icie-18.2018.49>.
- Rodiyah, Rodiyah. (2021). Implementasi Program Merdeka Belajar Kampus Merdeka di Era Digital dalam Menciptakan Karakter Mahasiswa Hukum yang Berkarakter dan Profesional. 10.
- Rohaenah, Ike Nilawati, dan Aan Hasanah. (2021). DEVELOPMENT OF CHARACTER EDUCATION MODELS. 2: 18.
- Simanjuntak, Melvin M. (2022). Analisis Urgensi Penggunaan Literasi Digital dalam Pelaksanaan Pendidikan pada Masa Pandemi di Sekolah Menengah Pertama. *EDUKATIF : JURNAL ILMU PENDIDIKAN* 4 (2): 2599–2608. <https://doi.org/10.31004/edukatif.v4i2.2547>.
- Solihatini, Etin, Jhoni Lagun Siang, Roby Ibnu Syarifain, Alrik Lapihan, Olivia C Wuwung, Kinkin Yuliaty Subarsa Putri, Jeane Marie Tulung, dan Esa Aryo Kuncoro. (2021). “Development of Qr Code-Based Character Education Teaching Materials,” 10.
- Sugiyono. (2015). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung: CV Alfabeta.
- Sukarman, Hudiarto, dan Nuril Kusumawardani Soeprapto Putri. (2018). Green Information Technology Policy in Indonesia. Dalam *2018 International Conference on Information Management and Technology (ICIMTech)*, 309–14. Jakarta: IEEE. <https://doi.org/10.1109/ICIMTech.2018.8528181>.
- Sulistiyani, Endang, Khamida Khamida, Umdatul Soleha, Rizki Amalia, Sri Hartatik, Riyan Sisiawan Putra, Rizqi Putri Budiarti, dan Ary Andini. (2021). Implementasi Merdeka Belajar Kampus Merdeka (MBKM) pada Fakultas Kesehatan dan Non Kesehatan.” *EDUKATIF : JURNAL ILMU PENDIDIKAN* 4 (1): 686–98. <https://doi.org/10.31004/edukatif.v4i1.1943>.
- Sumbodo, Wirawan, Pardjono, Samsudi, dan Winarno Dwi Rahadjo. (2018). Implementation of Partnership Management Model of SMK (Vocational High School) with Existing Industries in Mechanical Engineering Expertise in Central Java. Dalam , 020038. Semarang, Indonesia. <https://doi.org/10.1063/1.5028096>.



- Supriani, Y, F Meliani, A Supriyadi, S Supiana, dan Q. Y Zaqiah. (2022). The Process of Curriculum Innovation: Dimensions, Models, Stages, and Affecting Factors. *Nazhruna: Jurnal Pendidikan Islam* 5 (2): 485–500. <https://doi.org/10.31538/nzh.v5i2.2235>.
- Ulewicz, Monica, dan Alexandra Beatty. (2001). *The Power of Video Technology in International Comparative Research in Education*. Washington DC: National Academy Press.
- Yamin, Muhammad, dan Syahrir Syahrir. (2020). PEMBANGUNAN PENDIDIKAN MERDEKA BELAJAR (TELAAH METODE PEMBELAJARAN). *Jurnal Ilmiah Mandala Education* 6 (1). <https://doi.org/10.36312/jime.v6i1.1121>.
- Yigitcanlar, Tan, Rashid Mehmood, dan Juan M. Corchado. (2021). Green Artificial Intelligence: Towards an Efficient, Sustainable and Equitable Technology for Smart Cities and Futures. *Sustainability* 13 (16): 8952. <https://doi.org/10.3390/su13168952>.
- Yusuf, M, dan Ahmad Saifudin. (2022). Strategi Kepala Madrasah dalam Meningkatkan Kemampuan Literasi Digital Guru pada Masa Pandemi Covid-19. 5: 17.

