



Implementing an Environment-based Curriculum at Madrasah Ibtidaiyah During the Covid-19 Pandemic

Nur Atikoh*

*Department of Madrasah Ibtidaiyah Teacher Education, Faculty of Tarbiyah and Teacher Training, Institut Agama Islam Negeri Syekh Nurjati Cirebon, Indonesia
Email: nuratikoh50@gmail.com

Tati Nurhayati**

**Department of Madrasah Ibtidaiyah Teacher Education, Faculty of Tarbiyah and Teacher Training, Institut Agama Islam Negeri Syekh Nurjati Cirebon, Indonesia
Email: tatinurhayati674@gmail.com

Ummi Nur Rokhmah***

***Department of Madrasah Ibtidaiyah Teacher Education, Faculty of Tarbiyah and Teacher Training, Institut Agama Islam Negeri Syekh Nurjati Cirebon, Indonesia
Email: umminurrokhmah@gmail.com

Received: November 30th, 2021. Accepted: June 15th, 2022. Published: June 30th, 2022.

Abstract

The environment-based curriculum has not been simultaneously conceptualized and has not been optimally integrated into learning activities in Madrasah Ibtidaiyah (Islamic elementary school). Furthermore, the Madrasah environment as a learning resource has not been fully utilized. Therefore, the purpose of this research was to find out how an environment-based curriculum was applied during the Covid-19 pandemic and to describe the strengthening of character values in Madrasah Ibtidaiyah. This research was conducted at Madrasah Ibtidaiyah Darul Ulum, Cirebon City, West Java. Observation, interviews, and documentation were employed to collect data. The collected data were then analyzed by data reduction, data presentation, and data verification. The data analysis was interactive and triangulation was used to ensure data validity. The results showed that the implementation of the environment-based curriculum at Madrasah Ibtidaiyah Darul Ulum during the Covid-19 pandemic was integrated into subjects through activities such as house-waste recycling, land management and tree planting at home, energy-saving habits, and plastic-use reduction at home. The results suggest that teachers instill environmental awareness from an early age and use the environment as a learning tool.

Keywords: *curriculum implementation, environment, Covid-19 pandemic.*

Abstrak

Konseptualisasi kurikulum berbasis lingkungan hidup belum diketahui secara simultan dan belum terealisasi secara optimal dalam kegiatan pembelajaran di Madrasah Ibtidaiyah. Lingkungan Madrasah sebagai sumber belajar juga belum dimanfaatkan secara maksimal. Oleh karena itu, tujuan dari penelitian ini adalah untuk mengetahui bagaimana kurikulum berbasis lingkungan hidup diterapkan selama masa pandemi Covid-19 dan mendeskripsikan penguatan nilai-nilai karakter di Madrasah Ibtidaiyah. Penelitian ini dilaksanakan di Madrasah Ibtidaiyah Darul Ulum Kota Cirebon, Jawa Barat. Observasi, wawancara, dan dokumentasi digunakan untuk mengumpulkan data. Data yang terkumpul kemudian dianalisis dengan reduksi data, penyajian data, dan verifikasi data. Analisis keabsahan data menggunakan triangulasi data. Hasil penelitian menunjukkan bahwa implementasi kurikulum berbasis lingkungan hidup di Madrasah Ibtidaiyah Darul Ulum selama masa pandemi Covid-19 diintegrasikan ke dalam mata pelajaran, kegiatan pemanfaatan sampah di rumah, pengelolaan lahan dan penanaman pohon di rumah, kebiasaan hemat energi dan mengurangi penggunaan plastik di rumah. Hasil penelitian menyarankan agar guru dapat menanamkan kepedulian lingkungan sejak dini dan memanfaatkan lingkungan sebagai sarana belajar.

Kata kunci: *implementasi kurikulum, lingkungan hidup, pandemi Covid-19.*

INTRODUCTION

The concept of sustainable development has been evolving for more than 30 years (Rogers, Jalal & Boyd, 2012). The sustainable development paradigm calls for natural resources to be dynamically preserved because of their vital functions as capital development and the main pillar in supporting the life system (Nihlawati, 2011). Sustainability will take care of it self as economic growth proceeds (Githiria & Onifade, 2020). To increase social sensitivity and the quality of Indonesian human resources, the Ministry of National Education through the Ministry of National Education Strategic Plan 2005-2009 emphasizes that the perspective of educational development is not only to develop intellectual aspects but also the character, moral, social, and physical characteristics of the learning participants. Educating is creating complete Indonesian people. All levels of formal education institutions (schools) have the task of synthesizing this perspective by implementing sustainable education-based learning and curriculum (*ESD*) (Rohmah, 2014). The central focus of *ESD* is to prepare the younger generation to become responsible citizens in the future (Burmeister, Rauch & Eilks, 2012).

Pioneering and developing environmental awareness education is not an easy job (Nurulloh, 2019). There is an important need to consider environmental issues from the early stage in the design process to the long-term harm to the environmental sources (Deniz, 2016). The toughest challenges are littering habits, unsanitary lifestyles, and extravagant lifestyles (Herdiansyah, Sukmana, & Lestari, 2019). Tackling environmental problems starts by

improving human behavior because humans are the cause of various environmental problems (Fua, 2013). Developing awareness of the environment's importance is a mandatory journey for the sake of the next generation's survival. The efforts to foster environmental awareness should start from an early age and should be continuous through habituation. Strategic steps in nurturing environmental awareness are carried out through environmental education (Jufri, Fua, & Nurlila, 2018). This is education as sustainability, a way of life that transforms the substance and processes of the formal curriculum, the purposes of learning, and how educational institutions and buildings work (Shallcross & Robinson, 2008).

Environmental education is a conservation strategy that creates a synergistic space such as facilitating opportunities for scientists, decision-makers, community members, and other stakeholders to discuss and study the environment (Wihardjo & Rahmayanti, 2016). Environmental education builds on local knowledge, experience, values, and practices, and is often in place-based settings. Therefore, it encourages people to interact productively with the environment (Oreszczyń & Lane, 2012). Schools as formal institutions for providing education play a strategic role in the national education system (Komalasari, Arafat, & Mulyadi, 2020). The literature on learning for sustainability approaches to education specifically advocates the linking of school greening initiatives to curriculum change for sustainability (Tilbury, Keogh, Leighton, & Kent, 2005). Principals as managers and leaders are responsible for translating and implementing national education policies set by the government. School policy to create a caring and environmentally cultured school is a procedural action carried out systematically to improve school quality, community welfare, and intelligence (Taufan & Mazhud, 2012). Education may bring better environmental quality and a good environment can improve the quality of education (Mahalik, Mallick & Padhan, 2021).

Policy implementation is the second stage after policymaking or development. The success of policy implementation can be measured from the process and achievement of the final results (output) or in other words whether or not the goals are achieved (Abdullah & Retnowati, 2017). The curriculum is a set of plans and arrangements regarding (1) objectives, (2) material, (3) method, (4) organization, and (5) evaluation. Environmental-based curriculum implementation is the application of curriculum programs that have been developed in the previous stage, then tested in terms of its implementation and management, while making adjustments to the field situation and the students' characteristics in intellectual, emotional, and physical development. The elementary school curriculum aims at creating learning environments, where students can share their ideas and actively participate, relating

various disciplines to each other, and using different teaching methods within the enriched environment (Koc, Isiksal, & Bulut, 2007). From the outset, the new curriculum was closely linked with the in-service training, and improvement of the infrastructure of school units and it gave a particular interest to the basic requirements of children's knowledge and skills, their learning, emotions, attitudes, interests, self-confidence, beliefs, anxiety, self-regulation, psychomotor development, and social skills. Implementation of the curriculum includes three main activities: (1) program development, (2) learning implementation, and (3) environmental-based evaluation (Harahap, 2019).

In recent years, there has been the initiation of a program toward educational institutions' accreditation as 'green schools' (Sagy & Tal, 2015), that is, schools that offer unique programs on environmental issues, provide activities that encourage the sensible use and reduced consumption of resources, and cultivate and promote environmental projects in the community – all according to values defined by the Ministry of Environmental Protection. Yet, the complexity of the definition of environmental education, a subject that comprises elements from many disciplines, can lead to a large gap between 'intention' and 'practice' regarding all that concerns teaching environmental issues (Sanera, 1998). Some difficulties associated with teaching environmental science may lie with the pedagogical staff, some of whom lack motivation and enthusiasm, due to their lack of knowledge or skill in this area or due to a lack of a supportive, positive attitude in the school (Ernest, 2007; Tal & Abramovich, 2013).

This paper, in general, focuses on the implementation of an environment-based curriculum at Madrasah Ibtidaiyah Darul Ulum, Cirebon City during the Covid-19 pandemic. The researcher formulated the problems into two points: (1) the implementation of an environment-based curriculum at Madrasah Ibtidaiyah Darul Ulum, Cirebon City, and (2) the students' character strengthening through an environment-based curriculum at Madrasah Ibtidaiyah Darul Ulum, Cirebon City. This research is expected to be a reference for teachers to incorporate special content in learning preparation and how to measure it in the evaluation stage. This research might provide insights into the importance of incorporating character education content in every aspect of human life, especially in a context where students spend a lot of time in it and foster the understanding that caring for the environment is one way to strengthen children's character in school.

METHODS

This is a qualitative study because it produces descriptive data in the form of written words or observed behavior (Moleong, 2010). This is under the characteristics of qualitative research: 1) a natural setting, 2) the researcher as the main data collection tool, 3) inductive data analysis, 4) descriptive research, and 5) process-oriented rather than result-oriented (Moleong, 2010). The qualitative approach in this study was used to reveal the substance of environmental-based curriculum policies during the Covid-19 pandemic in a natural setting without any treatment and hypothesis testing. This study attempted to describe and explain an environment-based curriculum during the Covid-19 pandemic in terms of the substance of the policy for developing an environment-based curriculum. Thus, in describing the phenomenon, the researcher did not use statistical procedures or other quantitative means, but inductively, the researcher examined the phenomenon in detail and in-depth.

This research was conducted at Madrasah Ibtidaiyah Darul Ulum, Cirebon City, West Java. Primary and secondary data sources were employed. Primary data were obtained from people who knew about the problem according to the research focus. In this study, the primary data sources came from informants including the school principal, curriculum development team, extracurricular/self-development coaches, counseling guidance teachers, and students. Meanwhile, secondary data sources came from school documents relevant to the environment-based curriculum. The secondary data sources were obtained from documents or archives such as curriculum documents, lesson plans, reports, and portfolios of madrasa programs.

Data collection techniques in qualitative research require the presence of researchers in the field. Researchers are at the research location and act as planners, data collectors, analysts, and data interpreters, and they report the research results. The presence of the researcher at the research site also acts as a key instrument (Moleong, 2010). The data collection techniques employed in this study were observation, interviews, and documentation. The data collected through observations, interviews, and documentation were recorded in field notes consisting of two sections: the descriptive and reflective sections. The descriptive section is a note from what was seen, heard, witnessed, and experienced by the researcher and it was recorded as completely and objectively as possible. This descriptive section contained descriptions from informants, dialogue reconstruction, notes about activities, and descriptions of activities. Meanwhile, the reflective section was a note that contained the impressions, comments, opinions, hopes, or interpretations of researchers about the phenomena at hand.

These stages of qualitative research refer to by Sugiyono (2010), include: (a) the preparation or orientation stage, (b) the exploration stage, and (c) the stage of checking the results or findings and writing research reports. Meanwhile, according to Moleong (2010), the stages of qualitative research are carried out through: (1) preliminary stage, (2) fieldwork stage, (3) data analysis stage, and (4) research result reporting stage. These two opinions have compatibility in their application. Therefore, the researchers combined the two proposed stages.

RESULTS AND DISCUSSION

Implementation of Environmental-based Curriculum

The delivery of environment-related learning materials to students can be done through an integrated curriculum within each subject. The development of materials, learning models, and various learning methods is carried out to provide students with an understanding of everyday environmental problems. The results of interviews with a teacher revealed that Implementation is carried out based on planning, implementation, and evaluation which are reflected in the lesson plans and syllabus developed by each teacher.

Environmental education, through Competence Standard and Basic Competence, was integrated into each subject and was reflected in the lesson plan prepared by each teacher. A teacher, for example, delivered the environmental education through social studies subject for grade 5 with a “natural occurrence” topic. This topic is closely related to environmental education. Therefore, integrating environmental education offered a deeper insight into the topic and broaden students’ knowledge of the environment. The lesson plan reflecting the planning, implementation, and evaluation stages showed that environmental education was indeed integrated into the Social Studies Subject. Meanwhile, on the management of learning facilities at Madrasah Ibtidaiyah Darul Ulum, the results of the interview revealed that in the management of infrastructure facilities, it is adjusted to curriculum materials in environmental education such as plastic waste, leaves, and paper. However, during the Covid-19 pandemic, this activity was replaced with student activities at home. With their parents, students transformed plastic waste into useful goods which are artistic and have selling prices.

In environment-based learning, the latest local and global issues such as floods, droughts, landslides, and global warming were given to students to broaden their insights. Based on the results of the interview, the challenge faced by teachers was the limited time for face-to-face learning to cover all learning materials. Hence, learning activities were often neglected or not optimal. However, with the utilization of environment-based learning, students could be nurtured into someone with a high awareness of environmental problems. A

generation that is creative, innovative, and sensitive to environmental issues is expected to demonstrate environmentally-friendly behavior and insight. In line with the results of the interview above, the principal also revealed that learning activities during the Covid-19 pandemic were carried out in blended learning, both online and face-to-face learning. The face-to-face learning activities are carried out starting at 07.50 and ending at 12.00 wib.

The development of an environment-based curriculum during the Covid-19 pandemic to create madrasas that care for and have an environmental culture can be achieved by doing the following steps: (1) development of cross-subject learning models, (2) exploration and development of materials and environmental issues in the surrounding communities; (3) development of environmental and cultural-based learning methods. Based on the interview results, for environmental-based assessment, the madrasa integrated it into the attitude assessment (intelligent, authentic, faithful, solidarity). The evaluation was carried out through the involvement of teachers and parental support in an environmental-based learning context. In line with the data obtained, the head of madrasah ibtidaiyah Darul Ulum also revealed that the evaluation of the environment-based curriculum at madrasah ibtidaiyah Darul Ulum has been going well, but there are still obstacles, one of which is the lack of maximum involvement of parents at home due to their busy work.

Regarding the assessment standard, the assessment was made based on the progress of homework reported through videos of assignments done by students. For example, students were asked to send videos of planting trees around the house, watering plants around the house, cleaning the house, and other activities. To assess students' attitudes and behavior, teachers observed the videos sent by students. If the student did not carry out the task, the student could be considered to lack concerns for the environment. Likewise, teachers, administrative staff, and school principals were judged based on their performance during their turn to oversee the school during the Covid-19 pandemic. Furthermore, measuring the success (attitudes and behavior) of schools in implementing an environmentally cultured school can be assessed by all school's residents.

Nurturing Students' Character through an Environment-based Curriculum

Character building occurred during online learning and face-to-face learning alternately. In the classroom, reinforcement was carried out by incorporating environmental education content into learning preparation. This environmental education content was in the form of all innovations, involvement, and assessments based on environmental protection and management efforts. Reinforcement was carried out not only in the classroom but also outside the classrooms through each subject that incorporated environmental education content. The

character building was also carried out through online learning activities at each student's home in all participatory-based environmental activities. In character building, concern for the environment is an important value to be cultivated. According to Naim (2012) that a human with character is a person who has concern for the environment, both the physical environment and the social environment. The goal of an Environment-based Curriculum is to emphasize the formation of personalities or characters that love the environment. Caring for the environment is not a compulsion for us but a necessity (Rogers, Jalal & Boyd, 2012). It is clearly explained in Surah Ar-Rum (41-42) which means: "Corruption has appeared throughout the land and sea by [reason of] what the hands of people have earned so He [i.e., Allah] may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness]." The Islamic prophet (Muhammad) said, "Travel along with the earth and see the end of the ancient people, most of them are people who associate (Allah).

This is a warning from God that we have damaged the place we live in. The Prophet also advised in a hadith (narrated by Muslim): "Any Muslim who plants a tree and someone or an animal eats from it, it will be written down for him as a reward for charity." This suggestion was conveyed by the Prophet so that we learn to appreciate what is there and make changes as much as possible to avoid damage and protect and manage the environment optimally. Meanwhile, in the national education system, environmental care activities are strongly supported by *Permendiknas* (Educational Law) no. 22 of 2006 stating that increasing the relevance of education is intended to produce graduates who are under the demands based on the potential of Indonesia's natural resources. This means that government includes environmental elements in the regulations that will be implemented in schools. This is revealed in the competency standards for graduates of primary and secondary education that students can demonstrate the ability to recognize natural and social phenomena in the surrounding environment and show love and concern for the environment (Judiani, 2010). There is never an end-state of sustainable development since the equilibrium between development and environmental protection must constantly be readjusted (Veitayaki, 2006).

In implementing an environment-based curriculum during the Covid-19 pandemic, teachers are required to include environmental elements in all learning aspects (Wang, 2021). One of them is in learning preparation. Learning preparations made by teachers are the syllabus and lesson plans. In the syllabus, there is a description of core competencies, basic competencies, learning materials, learning activities, assessments, time allocation, and learning resources. All environmental content subjects, it is included in the basic competencies. Environmental content is usually found in the basic competencies of science

subjects such as natural education science "Identifying the survival of living things through adaptation, natural selection, and reproduction." With this basic competence, the integration of character-building and environmental elements is very clearly visible. Moreover, learning indicators such as "linking the adaptive behavior of certain animals in their environment with human lives" would emphasize environmental education. Character values that are expected to emerge from this indicator are independent and thorough. Good character is not formed automatically; it is developed over time through a sustained process of teaching, for example, learning and practice. When a comprehensive approach to character education is used, a positive moral culture is created in the school—a total school environment that supports the values taught in the classroom (Davidson, 2014).

In optimizing environmental content, it is also necessary to include all learning resources (Ju et al., 2017). In the application of environmental content, many learning resources can be used by a teacher to make learning more efficient. Of the five kinds of learning resources described by Saondi (2013) in his book "Becoming a Professional Teacher", there are two kinds of learning resources that are in direct contact with students: environment and activities.

Environmental learning resources are spaces and places where resources can interact with students (Malone, 2004). Environmental learning resources at Madrasah Ibtidaiyah Darul Ulum were mini forests and green open spaces. Meanwhile, learning activity resources are a combination of a technique with other sources to facilitate learning. At Madrasah Ibtidaiyah Darul Ulum, there were various learning activities to get optimal learning outcomes. In addition, the hygiene enforcement team always maintained cleanliness during recess and after face-to-face learning in a combination of *Aqidah Akhlaq* subject assessment activities. In the two examples above, the teachers at Madrasah Ibtidaiyah Darul Ulum were very competent in arousing students' learning enthusiasm. They made the most of students' attitudes, dreams, curiosity, and ambitions. Other impacts of utilizing environmental learning resources were sharpening students' EQ, CQ, and AQ in addition to their IQ (Villagonzalo, 2013).

In the *Aqidah Akhlak* subject, the nurtured character values were hardworking, participative, sincere, productive, healthy-oriented, and broad-minded. These characteristics could be promoted through various learning activities (Pala, 2011). In the *Aqidah Akhlak* subject, teachers incorporated environmental education by questioning, exploring, and communicating activities. By doing these activities, teachers could observe whether the character values had been nurtured or not from students' performance. If character building regarding the environment had been incorporated into learning activities, it was expected that

students would demonstrate that values because they were used to doing it in class. In line with the theory of character development, the character is developed through the stages of knowledge (knowing), implementation (acting), and habits (habit) (Roesminingsih & Susarno, 2005). A person with the knowledge of kindness is not necessarily able to act according to his knowledge if he is not trained (becomes a habit) to do so (Wang, 2021). For some subjects, it was found that teachers already had the competence to incorporate environmental content with character building in their class preparation. However, in several other subjects, teachers had not displayed the awareness that character building could be obtained through environmental care activities.

The distribution of the main character items into subjects does not have to be with the same intensity because it will be burdensome to students. The integration of character education in the learning process is carried out starting from the planning, implementation, and evaluation stages of learning in all subjects. The addition and/or adaptation of activities, achievement indicators, and assessment techniques must pay attention to their suitability with the competence standard and basic competence that must be achieved by students. Learning activities, achievement indicators, and assessment techniques that are added and/or modified must strengthen the achievement of the competence standard and basic competence but at the same time develop character. As in the syllabus, the lesson plans were also adjusted by adding and/or modifying learning activities that promote character, adding and/or modifying indicators that were related to character building, and designing an assessment that can develop and/or measure character development. This finding reinforces previous studies that the evidence on interventions in elementary schools shows lasting benefits of interventions that primarily operate through boosting character skills (Heckman & Kautz, 2013).

In an environment-based curriculum during the Covid-19 pandemic, in addition to producing works from the learning process, students were also expected to be able to overcome environmental problems. The example for this case was one of the basic competencies of physical education, sports, and health was "applying a healthy living culture". In this basic competence, students were introduced to a healthy living culture, and how to protect the environment so that students are accustomed to solving environmental problems around their homes such as garbage. Students also produced some works or creations to solve waste problems such as "*dhlubheng*" envelopes, recycling pots, pencil cases from banners, and making compost from the waste collected during face-to-face learning at madrasas. In short, the students were get used to problem-solving, in terms of environmental problems and hygiene problems. An environment-based curriculum during the

Covid-19 pandemic would help cultivate students' ability to acquire knowledge and self-management, and improve the quality of professional talents (Wu & Xue, 2022).

The follow-up of implementing an environment-based curriculum policy during the Covid-19 pandemic is that school residents will remain enthusiastic and improve the implementation of the environment-based curriculum during the Covid-19 pandemic. School residents will also continue to improve and transmit the implementation of a sustainable environment-based curriculum to make Madrasah Ibtidaiyah Darul Ulum Cirebon City an excellent school. Students' achievements in the environmental field are expected to grow and be consistent, cooperation in the environmental field with school partners gets improved, and the school vision achievement also increases. Interventions during early school or elementary school improve character in a lasting way (Heckman, Moon, Pinto, Savelyev, and Yavitz (2010).

CONCLUSION

The implementation of an environment-based curriculum at Madrasah Ibtidaiyah Darul Ulum, Cirebon City includes environmentally friendly policies that require the school's vision, mission, and goals to contain environmental elements and require the school to internalize its vision, content, and goals to all school members. In practice, teachers incorporated environmental content into learning planning by developing methods and learning strategies that contained environmental elements. Students also carried out lessons designed by teachers to improve environmental protection and management by producing works or creations. The design of the lesson plan was the same as that used in the 2013 curriculum. However, environmental content was added, both in writing the syllabus and designing learning implementation plans in terms of Basic Competencies, Indicators, Materials, Learning Activities, Assessments, and Learning Resources. The reinforcement of character building was not only carried out through the environment-based curriculum, but was internalized in all activity components, both in the classroom during face-to-face learning at madrasas and online learning activities at home. It is suggested that teachers should analyze and plan in more detail to prepare learning activities. This learning preparation is a tool where teachers instill character in students, provide reinforcement, as well as assess the students' character.

REFERENCES

- Abdullah, T., & Retnowati, R. (2017). Implementasi Kebijakan dan Kurikulum Berbasis Lingkungan dalam Mewujudkan Sekolah Berbudaya Lingkungan Studi Kasus di SMK Negeri 3 Kota Sukabumi. *PLH: Jurnal Pendidikan Lingkungan Hidup*, 5(2), 11-17.
- Binedikta, S. L., Sumaryanto, T., & Kardoyo, K. (2015). Implementasi Kurikulum Sekolah Berbasis Lingkungan di SD Cahaya Nur Kabupaten Kudus. *Journal of Educational Management*, 4(2), 151-157.
- Burmeister, M., Rauch, F., & Eilks, I. (2012). Education for Sustainable Development (ESD) and chemistry education. *Chemistry Education Research and Practice*, 13(2), 59-68.
- Davidson, M. (2014). A character education research perspective for the 21st century. *Journal of character education*, 10(1), 77.
- Deniz, D. (2016). Sustainable thinking and environmental awareness through design education. *Procedia Environmental Sciences*, 34, 70-79.
- Ernst, J. (2007). Factors associated with k-12 teachers' use of environment-based education. *Environmental Education Research*, 3, 15-32
- Githiria, J. M., & Onifade, M. (2020). The impact of mining on sustainable practices and the traditional culture of developing countries. *Journal of Environmental Studies and Sciences*, 10(4), 394-410.
- Harahap, M. (2019). Integrasi Ilmu Pengetahuan dan Teknologi dengan Iman dan Taqwa dalam Implementasi Kurikulum 2013 Pada Kelompok Mata Pelajaran MIA di MAN Insan Cendekia Tapanuli Selatan (*Doctoral dissertation*, IAIN Padangsidimpuan).
- Heckman, J. J., & Kautz, T. (2013). Fostering and measuring skills: Interventions that improve character and cognition.
- Heckman, J. J., S. H. Moon, R. Pinto, P. A. Savelyev, and A. Q. Yavitz (2010b, February). The rate of return to the HighScope Perry Preschool Program. *Journal of Public Economics*, 94 (1-2), 114-128.
- Herdiansyah, H., Sukmana, H., & Lestarini, R. (2018). Eco-Pesantren as A Basic Forming of Environmental Moral and Theology. *KALAM*, 12(2), 303-326.
- Ju, R., Buldakova, N. V., Sorokoumova, S. N., Sergeeva, M. G., Galushkin, A. A., Soloviev, A. A., & Kryukova, N. I. (2017). Foresight Methods In Pedagogical Design of University Learning Environment. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(8), 5281-5293.
- Judiani, S. (2010). Implementasi Pendidikan Karakter di Sekolah Dasar Melalui Penguatan Pelaksanaan Kurikulum. *Jurnal Pendidikan dan Kebudayaan*, 16(9), 280-289.
- Jufri, J., La Fua, J., & Nurlila, R. U. (2019). Pendidikan Lingkungan Di Sekolah Dasar Negeri 1 Baruga Kota Kendari. *Al-TA'DIB Jurnal Kajian Ilmu Kependidikan*, 164-181.
- Koc, Y., Isiksal, M., & Bulut, S. (2007). Elementary school curriculum reform in Turkey. *International Education Journal*, 8(1), 30-39.
- Komalasari, K., Arafat, Y., & Mulyadi, M. (2020). Principal's Management Competencies in Improving the Quality of Education. *Journal of Social Work and Science Education*, 1(2), 181-193.
- La Fua, J. (2013). Eco-pesantren; model pendidikan berbasis pelestarian lingkungan. *Al-TA'DIB Jurnal Kajian Ilmu Kependidikan*, 6(1), 113-125.

- Malone, K. (2004). "Holding environments" Creating spaces to support children's environmental learning in the 21st century. *Australian Journal of Environmental Education*, 20(2), 53-66.
- Moleong. (2010). *Metode Penelitian Kualitatif*. Bandung: PT. Remaja Rosdakarya.
- Muhammad, I. (2013). Diferensi makna kurikulum di Indonesia. *Jurnal MUDARRISUNA Media Kajian Pendidikan Agama Islam*, 3(2), 283-284.
- Naim, N. (2012). *Character Building Optimalisasi Peran Pendidikan dalam Pengembangan Ilmu & Pembentukan Karakter Bangsa*. Yogyakarta: ArRuzz Media.
- Nihlawati, S. (2017). Substansi Kebijakan Kurikulum Berbasis Lingkungan pada Sekolah Adiwiyata di SMPN 2 Kebomas Gresik. *DIDAKTIKA Jurnal Pemikiran Pendidikan*, 18(2), 6-21.
- Nurulloh, E. S. (2019). Pendidikan Islam Dan Pengembangan Kesadaran Lingkungan. *Jurnal Penelitian Pendidikan Islam*, 7(2), 237-258.
- Oreszczyn, S., & Lane, A. (2012). Agri-environmental knowledge management and networks of practice a workshop background paper in Hedgerow Futures Conference.
- Pala, A. (2011). The need for character education. *International Journal of Social Sciences and Humanity Studies*, 3(2), 23-32.
- Roesminingsih dan Susarno, L. H. (2005). *Teori dan Praktek Pendidikan*. Surabaya: Lembaga Pengkajian dan Pengembangan FIP Universitas Negeri Surabaya.
- Rogers, P. P., Jalal, K. F., & Boyd, J. A. (2012). *An Introduction to Sustainable Development*. Routledge.
- Rohmah, L. (2014). Implementasi Kurikulum Berbasis Education for Sustainable Development (ESD) di SDIT Internasional Luqman Hakim Yogyakarta. *Al-Bidayah Jurnal Pendidikan Dasar Islam*, 6(2), 217-234.
- Sagy, G., & Tal, A. (2015). Greening the Curriculum: Current Trends in Environmental Education in Israel's Public Schools. *Israel Studies*, 20, 57-85.
- Sanera, M. (1998). Environmental Education: Promise and performance. *Canadian Journal of Environmental*, 3, 9-26.
- Santoro, D. A. (2011). Good teaching in difficult times Demoralization in the pursuit of good work. *American Journal of Education*, 118(1), 1-23.
- Shallcross, T., & Robinson, J. (2008). Sustainability education, whole school approaches, and communities of action. In *Participation and Learning* (pp. 299-320). Springer, Dordrecht.
- Sugiyono. (2010). *Metode Penelitian Pendidikan*. Bandung: Alfabeta.
- Tal, T., & Abramovich, A. (2013). Activity and action: Bridging environmental sciences and environmental education. *Research in Science Education*, 43, 1665-1687.
- Taufan, J., & Mazhud, F. (2016). Kebijakan-kebijakan kepala sekolah dalam penyelenggaraan pendidikan inklusif di Sekolah X Kota Jambi. *Jurnal penelitian pendidikan*, 14(1), 62-75.
- Tilbury, D., Keogh, A., Leighton, A., & Kent, J. C. (2005). *A national review of environmental education and its contribution to sustainability in Australia: Further and higher education*. Australian Research Institute in Education for Sustainability (ARIES).

- Veitayaki, J. (2006). Caring for the environment and the mitigation of natural extreme events in Gau, Fiji islands: A self-help community initiative. *Island Studies Journal*, 1(2), 239-252.
- Villagonzalo, R. R. (2016). Intelligence quotient, emotional quotient, spiritual quotient, and adversity quotient® and the academic performance of students. *Unpublished Undergraduate Thesis. City of Koronadal: St. Alexius College*. Available online also at: https://www.peaklearning.com/documents/PEAK_GRI_Villagonzalo.pdf [accessed in Bandung, West Java, Indonesia: March 11, 2018].
- Wang, J. (2021). The Essence and Composition Elements of Wisdom Education. *Science Insights*, 36(5), 265-270.
- Wihardjo, R. S. D., & Rahmayanti, H. (2021). *Pendidikan Lingkungan Hidup*. Pekalongan: NEM.
- Wu, Y., & Xue, Y. (2022). A Study on the Construction of Open Curriculum for International Students Based on OBE Concept. *Open Access Library Journal*, 9(6), 1-11.