



Environmental Literacy of Students in Al-Rifa'ie Modern Islamic Boarding School, Malang Regency-Indonesia Based on Gender Differences and Parents' Occupation

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DOI: 10.24815/jpsi.v9i2.19316

Article History:

Received: January 5, 2021

Accepted: March 27, 2021

Revised: March 16, 2021

Published: April 18, 2021

Abstract. Many students in Indonesia are not responsive about the environmental problems around them. This study aimed to (1) analyze environmental literacy differences between male and female students, (2) analyze environmental literacy differences based on gender and parental occupations, and (3) analyze the influence of the interaction between gender and the parents' occupations. This study used a quantitative approach. This study consisted of 70 students in 11th grade as a subjects. The subjects were determined randomly in three majors, i.e. multimedia, nursing, and pharmacy. Students' environmental literacy was measured using the MSELs instrument developed by McBeth, 2011. The results study showed that no significant difference in knowledge and cognitive skills between male and female students, but there were significant differences in attitudes and behavior. Moreover, there was no significant difference in knowledge, attitudes, and cognitive skills between students whose parents work. However, there were significant differences in behavior between students whose parents' jobs were different. There is a significant relationship between male students in the aspects of knowledge, attitudes, behavior, and cognitive skills, but not significantly related to female students' behavior. There was no significant interaction between male and female students and their parents' different environmental literacy occupations.

Keywords: Environmental literacy, gender, Islamic-boarding school, parents' occupation

Introduction

Environmental literacy is an individual's ability to understand and interpret the environmental conditions around him; from his understanding and interpretation, he can decide the right actions to maintain, restore and improve the environmental conditions (Kusumaningrum, 2018). According to Yunansah, et al. (2017), the purpose of environmental literacy is to form a person's conscious attitude to protect their environment and love their environment. A conscious attitude is defined as environmental literacy, not only having knowledge of the environment but having a responsive attitude and providing solutions to environmental problems. Environmental awareness can be developed through environmental education; as conveyed by Widianingsih, et al. (2017), environmental literacy education is needed to indirectly solve real environmental problems.

Based on the general curriculum, environmental education is contained in Natural Science or Natural Sciences subjects in Elementary Schools to High Schools or Vocational

High Schools. The environmental learning process must emphasize environmental aspects so that it can equip students with the attitude of being able to act to maintain an environmental balance and have the ability to think critically to solve environmental problems in everyday life (Komariah, et al., 2017). Broadly, according to Husin (2019), environmental education learning objectives are to manage resources wisely and foster a sense of responsibility towards the interests of future generations so that knowledge, attitudes, and skills or behavior are needed that make resources sustainable or can be used sustainably.

Several studies show that many students in Indonesia do not care about the environment because they do not know the impact of behavior on the environment (Sya'ban, 2018). UNESCO's 2012 statistical data states that Indonesia's literacy capacity is 0.0001% and is ranked 43rd out of 48 countries in the world with a score of 428 out of a total average of 500 (Batubara, et al., 2018). Efforts made include environmental education into Natural Sciences but have not fully equipped students with knowledge and concern for the environment (Nuraini, et al., 2016). According to Nofiana, et al. (2018), many students' environmental literacy in Indonesia is not good because students are less responsive to developments and environmental problems that exist around them.

Low environmental literacy occurs in formal and non-formal educational institutions, including pesantren-based educational institutions. Environmental education has been carried out in several Adiwiyata schools (green school programs), but it is still not widely implemented (Komariah, et al., 2017). According to Najwa (2018), Pesantren is a place to live or a dormitory and a training ground for students to live prosperously and independently in the community. The purpose of education in Islamic boarding schools is to form individuals with Islamic personalities in thoughts and attitudes. Islam teaches individuals always to maintain environmental balance. However, there are still pesantren graduates who do not care about the environment or have not achieved the minimum competency in environmental literacy skills (Rifauddin, et al., 2020).

Students' environmental literacy status can be measured by the criteria for environmental education components, including knowledge, cognitive skills, attitudes, and environmentally responsible behavior (Saribas, 2015). The role of environmental education is to help students form good literacy skills (Parmin & Savitri, 2020). It is expected to increase literacy through learning and habituation to care for the environment (Nasution, 2016).

Most research has been done related to the role of education in pesantren (Rifauddin, et al., 2020; Tanszil, 2012) including cultural and character education in pesantren (Nofiaturrehman, 2017), or case studies conducted in modern and traditional pesantren (Astuti, 2017). Research related to the analysis of environmental literacy among students had not been conducted until this research was done, especially in Islamic boarding schools with current statuses, such as the Al-Rifa'ie Modern Islamic Boarding School in Gondanglegi District, Malang Regency. The research conducted at the Al Rifa'ie Modern Islamic Boarding School is the modernization of the education system at the Al-Rifa'ie Modern Islamic Boarding School (Mukri, 2013) and the role of the kyai who founded modern Al-Rifa'ie in 1999-2012 (Najwa, 2018).

The Al-Rifa'ie Modern Islamic Boarding School is a unique educational institution with a modern curriculum and learning system. The school has students with very varied backgrounds because they come from various regions in Indonesia. This condition is a

potential that can be used to capture the literacy skills of students from different regions. This pesantren also has several school institutions such as primary schools, junior high schools, high schools, and vocational schools. Pharmacy and nursing majors have long emphasized environmental literacy in the teaching-learning process.

Especially for class XI students, the learning approach used is the entrepreneurial program. The hemo-entrepreneurial program emphasizes material orientation and the application of concepts by connecting students' phenomena and is oriented towards 21st Century life skills (Zammi, et al., 2018). This approach aims to make students have not only good knowledge but also qualified abilities.

Besides, the learning process in Islamic boarding schools is separated by gender. The tradition of class separation based on gender differences refers to Islamic fiqh, limiting the mixing of men and women in one room (Mawardi, 2008). On the other hand, male and female students have unique learning styles. Male students have the characteristics of being rational, assertive, calculating, aggressive, and objective in learning or seeing things. Meanwhile, women will be more dominant emotionally, cooperatively, and passively than men in the process of learning or seeing something (Arief, et al., 2018). In conventional classrooms, interaction and communication between male and female students allow the transfer of attitudes or particular views in seeing problems. These different learning environment conditions become interesting for further research, how these characteristics differ in attitudes and behaviors in the learning process to decision making.

Apart from gender factors, several experts stated that male and female students' knowledge, attitudes, and behavior were also influenced by various external factors such as family. Researchers believe that the parents' habits at work affect their behavior and attitudes in educating their children (the quality of parenting style) (Wibowo et al., 2018). Besides, these students have just been carrying out an online learning process due to the Covid 19 pandemic being guided remotely by school teachers. In order to ensure the implementation of the learning process at home properly, parental supervision and guidance are carried out at home in the learning process, so that in this case, parents play an essential role in ensuring the formation of knowledge, behavior, attitudes, and cognitive skills before returning to school. It is shown that there are indications that the work of parents affects children's literacy habits, including environmental literacy.

This study aims to (1) analyze differences in environmental literacy between male and female students, (2) analyze differences in environmental literacy based on gender and parental occupation, and (3) analyze the influence of the interaction between gender and the work of parents at the Al-Rifa'ie Modern Islamic Boarding School. This study's results can be used to determine the factors that are significant for students' environmental literacy.

Methods

Researchers used a quantitative descriptive approach to describe the current condition of a student learning environment literacy in numbers that have meaning. This approach is very suitable for measuring and analyzing students' literacy skills possessed by students of the Al-Rifa'ie Modern Islamic Boarding School, Malang Regency, Indonesia.

This research was conducted on class XI students with an average age range of 16 to 17 years. As much as 70 students, consisting of 35 male students and 35 female students, were randomly selected as research subjects. The subjects of this study came from three majors, including multimedia, nursing, and pharmacy.

Data collection techniques in this study were used to test and non-test methods, including questionnaires and interviews. The test is used to obtain data related to students' cognitive skills knowledge. The instrument used in measuring students' cognitive refers to the environmental literacy questions of the Middle School Environmental Literacy Survey (MSELS) (McBeth, et al., 2011), which have been tested for their validity and reliability and have become a reference for assessment and standard evaluation to determine the level of environmental literacy skills in several countries. Environmental literacy consists of components of knowledge, attitudes, behavior towards the environment, and action plans for the environment, according to North America for Environmental Education (NAEE). Environmental literacy problems are carried out in each dormitory for three days, adjusting to the time-space between various routine activities at the boarding school.

Meanwhile, questionnaires and interviews were used to obtain attitudes and behavior data. The environmental literacy questionnaire used refers to the National Environmental Literacy Assessment (NELA), which consists of ecological and verbal knowledge, commitment, environmental sensitivity, environmental feelings, real commitment, identification of environmental problems, analysis of environmental problems, and action plans for the environment (McBeth, et al., 2011; Mcbeth, et al., 2008, 2014; McBeth & Volk, 2009). Interviews were conducted with several teachers of the Al-Rifa'ie Modern Islamic Boarding School who were randomly selected to narrate several points in the questionnaire deemed necessary to be explained and make observations Al-Rifa'ie Modern Islamic Boarding School environment.

The data analysis technique used quantitative descriptive statistical analysis. The results of the processing are presented in the form of a mean final score for every aspect of environmental literacy, making it easier for readers to understand. Furthermore, it was analyzed with a predetermined statistical test. These results were analyzed and entered into Microsoft Excel 2010, then conducted a prerequisite test, i.e. normality and homogeneity test. To find out whether there are differences in the level of environmental literacy based on gender differences, based on different parents' jobs, and the interaction using Two-Way ANOVA using SPSS 20.0.

Results and Discussion

The results of environmental literacy abilities were taken from knowledge, attitudes, behavior towards the environment, and cognitive skills. The summary of the results of literacy skills can be seen in Figure 1.

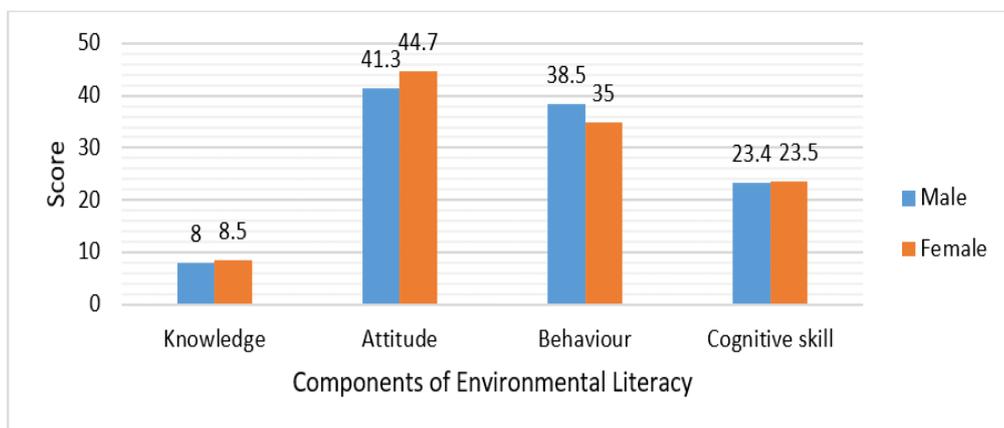


Figure 1. Student's literacy ability results in each aspect

The results of the normality test (Table 1) show that the students' environmental literacy skills are not normally distributed, or the normality assumption is not fulfilled (> 0.05). However, data analysis was still carried out by using parametric tests to describe the students' condition better and provide the latest contribution findings because the test results of the non-parametric analysis could not be generalized to the population so that they could not describe the condition of the population.

On the other hand, the homogeneity test (Table 2) shows that the data for knowledge and attitudes are not homogeneous, with scores of 0.029 and 0.004, respectively (< 0.05). However, the scores for behavior and cognitive skills were classified as homogeneous, with 0.205 and 0.475.

Table 1. Environmental literacy ability normality test

	Kolmogorov-Smirnov		
	Statistics	df	Sig.
Residual for Knowledge	0.169	70	0.000
Attitude	0.184	70	0.000
Behavior	0.117	70	0.019
Cognitive skills	0.268	70	0.000

Table 2. Literacy ability homogeneity test based on parents occupation

Dependent variable	Levene's Test of Equality of Error Variances a			
	F	df1	df2	Sig.
Knowledge	3.205	3	66	0.029
Attitude	4.918	3	66	0.004
Behavior	1.570	3	66	0.205
Cognitive skills	0.844	3	66	0.475

The two-way ANOVA hypothesis test (Tables 3 and 4) shows that, based on a gender perspective, there is no significant difference (> 0.05) in knowledge and cognitive skills with significance, respectively (0.201 and 0.318). On the other hand, the analysis showed that there were significant differences (< 0.05) in attitudes and behavior between male and female students (Table 5 and 6) with significance (0.003 and 0.010), respectively.

Table 3. Knowledge aspect two-way ANOVA test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.646a	3	1.882	1,058	0.373
Intercept	4079.238	1	4079.238	2292.493	0.000
Gender	2.964	1	2.964	1.666	0.201
Parents' occupation	1.965	1	1.965	1.104	0.297
Gender*Parents' occupation	0.007	1	0.007	0.004	0.949
Error	117.440	66	1.779		
Total	4962.000	70			
Corrected total	123.086	69			

Table 4. Two-way ANOVA test for cognitive skills aspects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	0.827a	3	0.276	0.980	0.407
Intercept	32923.261	1	32923.261	117171.405	0.000
Gender	0.284	1	0.284	1.011	0.318
Parents' occupation	0.249	1	0.249	0.888	0.350
Gender*Parents' occupation	0.076	1	0.076	0.269	0.606
Error	18.545	66	0.281		
Total	38536.000	70			
Corrected Total	19.371	69			

The analysis of parents' perspective shows that there is no significant difference (in all three aspects) between students whose parents' occupation are different. The knowledge aspect's significance (Table 3) is 0.297 (> 0.05), while the cognitive skills and attitude aspects are 0.350 (Table 4) and 0.415 (Table 5), respectively. However, there was a significant difference in behavior between students whose parents' jobs were different, with a significance of 0.015 (Table 6). The analysis results also show that there is no significant interaction between gender and parental work in all four aspects ($\text{sig} > 0.05$).

Table 5. Two-way ANOVA test for attitude aspects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	232.639a	3	77.546	3.432	0.022
Intercept	111983.797	1	111983,797	4955.828	0.000
Gender	220.247	1	220.247	9.747	0.003
Parents' occupation	15.179	1	15.179	0.672	0.415
Gender*Parents' occupation	13.072	1	13.072	0.578	0.450
Error	1491.361	66	22.596		
Total	131154.000	70			
Corrected Total	1724.000	69			

Table 6. Two-way ANOVA test for behavioral aspects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	358.718a	3	119.573	5.718	0.002
Intercept	83546.853	1	83546.853	3995.276	0.000
Gender	146.996	1	146.996	7.029	0.010
Parents' occupation	130.351	1	130.351	6.233	0.015
Gender*Parents' occupation	8.018	1	8.018	0.383	0.538
Error	1380.153	66	20.911		
Total	96315.000	70			

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Total	1738.871	69			

Based on these results, it is known that there is no significant difference between males and females in knowledge and cognitive skills possessed. Knowledge is the result of knowing and occurs after sensing (Awali, 2019). In comparison, cognitive skills include intellectual abilities. Good cognitive skills in a person will form characters such as talking a lot, completing work, having ideas, imagination, spontaneous expression of opinions, tend not to be lazy, caring, work efficiently, socialize, not being rude, not easily anxious (Gustina, et al., 2020). Cognitive skills are the bridge between knowledge and intelligence, and personality (Ulya, 2015), so the knowledge and cognitive skills are closely related. The quality of these two aspects is influenced by the source of information and gender factors (Mahanal, 2011). However, it turns out that there is no significant difference between the two aspects of gender. The researchers conducted interviews with expert sources (respondent 1) related to environmental education in schools regarding these findings.

"Subject teachers and learning resources between male and female students in science subjects, especially those that emphasize environmental education, are not differentiated, including extracurricular activities." (XI homeroom teacher).

Significant differences in attitudes and behavior between male and female students. Female students tend to use reason in assessing an object so that what emerges is a feeling of pleasure and displeasure, showing negative and positive feelings (Khumayrav, et al., 2012). Besides, differences in male and female students' behavior can also be caused by differences in activities and activities in the cottage environment, which can directly affect the student's lifestyle. For example, in time management, female students usually take longer to dress than male students, causing them to run out of time to tidy up rooms or check the room's cleanliness (Machfutrav, et al., 2018). On the other hand, male students' behavior tends to be more independent, healthy, and aggressive than female students who tend to be gentle, affectionate, and sympathetic rather than aggressive (Aulya, et al., 2016). Those will make female students more detailed so that they are slower to do something (behave) than male.

Aspects of knowledge, attitudes, behavior, and cognitive skills have a significant relationship with male students, but not significant with female students' behavior. If environmental awareness, which knows basic ecological concepts, is high, their it is also high, and conversely, if their knowledge of basic ecological concepts is low, their environmental awareness is low. So, it can be said that ecological knowledge will be directly proportional to one's abilities and influence attitudes and behavior. According to Nugraha, et al. (2021); Sirait (2012), there is a significant relationship between knowledge and behavior loving the environment, meaning that the higher the value of environmental knowledge, the higher the behavior of loving the environment. There is a significant relationship between environmental knowledge and attitudes and concern in preserving the environment (Azhar, et al., 2016). This evidence from the research conducted a significant relationship between environmental education obtained at school with attitudes and behavior towards the environment (Nurwidodo, et al., 2020).

In response to this, the researcher conducted interviews with expert sources 2 (respondent 2) to explain the differences in parenting patterns in schools and dormitories.

The students living in the cottages have two different nurturing environments, namely the school and the boarding house. There are regulations related to more general environmental behavior in schools, such as compulsory picketing and then controlled by CCTV, washing hands before entering class, removing shoes, and tidying up after learning occurs. Matters related to the school environment's cleanliness, such as watering plants, cleaning the garden, and preparing school areas such as hallways and bathrooms, are not entirely the students' responsibility. It is very different when the students are in a dormitory environment, which is entirely the responsibility of each individual, starting from personal hygiene such as a bed and wardrobe to being clean and tidy, lots of pickets to do, washing hands and changing clothes after leaving the dormitory area. Things related to environmental cleanliness such as cleaning the dormitory garden, planting the empty garden area with new plants, and cleaning the shared dormitories every week (ro'an) are the students' responsibility."(boarding school caretaker).

So, it was clear that there were differences in attitudes and behavior between female and male students at the Al-Rifa'ie Modern Islamic Boarding School. There was no significant difference in knowledge, attitudes, and cognitive skills between students and their parents' work. According to Masturina (2018) which states if competence in a person arises from themselves through their willingness to learn and interests. On the other hand, it did not rule out if children who have a work background with low social status had great determination and motivation to be better than their parents, included the desired to had good abilities and get the expected achievements. However, the knowledge, attitudes, and cognitive skills that a person has did not influenced by the different social status of the work of the parents.

However, there was a significant difference in behavior between students whose parents work. Behavior was the result of an activity or activity, this behavior results from the adaptation of its environment. This activity was formed a series of activities carried out daily (Fitriany, et al., 2016). The data obtained from 70 samples of student, all of them have a background of working parents. Parents' activities that were carried out while worked will affect the activities carried out in the house. According to Sarwar (2017) it would be an example in behaving for their children. Especially a student in the transitional phase between adolescence and adulthood, which will tend to have a better ability to adapt to his surroundings, accept the condition of the people in his environment such as the condition of his parents with his habits, or even if someone feels that this situation has a positive effect on him or her. will tend to follow it in order to be recognized by the environment.

The results of this study indicate that there was no significant interaction between male and female student and their parents' occupations on environmental literacy. This statement showed that the relationship between the work of parents and gender was mutually debilitating (Sarwono, 2010); moreover, there was no interaction between gender and parental work on environmental literacy. It happened because whatever the work of parents, either civil or non-civil servant, they had the opportunity to provide the same environmental literacy education to their children, both boys and girls (Machfutra, et al., 2018). However, when looked at environmental literacy from the gender aspect, it was no need to look at the background of the parents, namely their work or vice versa because it would be weakening each other and have no effect. As for efforts to improve environmental literacy skills in this study, it was necessary to be done the behavioral aspects of female

students because there was a significant relationship between knowledge, attitudes, behaviors, and cognitive skills of male students on the environmental literacy. However, there was no significant relationship between the behaviors of female students on environmental literacy.

Conclusion

Based on the study results, it can be concluded that whatever the parents' occupation (civil servant, non-civil servant, or not working) does not affect male and female students' environmental literacy skills. Every parent has the same opportunity to provide environmental literacy education to their children, both male and female. When someone wants to provide environmental literacy education to men or women, there is no need to look at the parents' occupation background, and vice versa.

Acknowledgement

This publication is a part of a grant from the Faculty of Teacher Training and Education, Universitas Muhammadiyah Malang for 2020 fiscal year with scheme "Basic Science Research". Therefore, our sincere gratitude goes to the Dean of Faculty of Teacher Training and Education, Universitas Muhammadiyah Malang for providing this fruitful opportunity and assistance.

References

- Arief, M., Sihkabuden, S., & Ulfa, S. 2018. Hubungan gaya belajar berdasarkan gender dengan hasil belajar pada mahasiswa teknologi pendidikan Universitas Negeri Malang. *Jurnal Kajian Teknologi Pendidikan*, 1(1):53-61. <http://journal2.um.ac.id/index.php/jktp/article/view/3388>
- Astuti, R.D.P. 2017. Pondok Pesantren Modern di Perkotaan: studi kasus Pondok Pesantren Al – Adzkar Tangerang Selatan. *Masyarakat: Jurnal Sosiologi*, 22(2):257-279. <https://doi.org/10.7454/mjs.v22i2.6873>
- Aulya, A., Ilyas, A., & Ifdil, I. 2016. Perbedaan perilaku agresif siswa laki-laki dan siswa perempuan. *Educatio: Jurnal Pendidikan Indonesia*, 2(1):92-97. <https://doi.org/10.29210/12016239>
- Awali, M. 2019. Pengaruh kemampuan kognitif terhadap hasil pembelajaran bola basket. *Journal of Chemical Information and Modeling*, 53(9):1689-1699. <https://doi.org/10.31539/jpjo.v1i2.156>
- Azhar, A., Basyir, M.D., & Alfitri, A. 2016. Hubungan pengetahuan dan etika lingkungan dengan sikap dan perilaku menjaga kelestarian lingkungan. *Jurnal Ilmu Lingkungan*, 13(1): 36. <https://doi.org/10.14710/jil.13.1.36-41>
- Batubara, H.H. & Ariani, D.N. 2018. Implementasi program gerakan literasi sekolah di Sekolah Dasar Negeri Gugus Sungai Miai Banjarmasin. *Jurnal Pendidikan Sekolah Dasar*, 4(1):15-24. <https://doi.org/10.30870/jpsd.v4i1.2965>
- Bermejo, R., Prieto, M.D., Fernández, M.C., Soto, G., & Sainz, M. 2013. A cognitive-creative profile of emotional talent. *Journal of New Approaches in Educational*

Research, 2(1):12–16. <https://doi.org/10.7821/naer.2.1.12-16>

- Fitriany, M.S., Farouk, H.M.A.H., & Taqwa, R. 2016. Perilaku masyarakat dalam pengelolaan kesehatan lingkungan. *Jurnal Penelitian Sains*, 18(1):41–46. <https://doi.org/10.26554/jps.v18i1.39>
- Gustina, L., Utami, D.A., & Wicaksono, P. 2020. The role of cognitive skills, non-cognitive skills, and internet use on entrepreneurs' success in Indonesia. *Jurnal Economia*, 16(1):130–142. <https://doi.org/10.21831/economia.v16i1.30414>
- Husin, A. 2019. Pengetahuan guru terhadap potensi sekolah untuk pendidikan nilai lingkungan hidup. *Prosiding NaCoME*, (November), 234–242. <http://ejournal.fkip.unsri.ac.id/index.php/nacomeunsri/article/view/286/115>
- Khumayra, Z. H., & Sulisno, M. 2012. Perbedaan Pengetahuan dan sikap perilaku hidup bersih dan sehat (PHBS) antara santri putra dan santri putri. *Jurnal Nursing Studies*, 1(1):197–204. <https://ejournal3.undip.ac.id/index.php/jnursing/article/view/450>
- Komariah, N., Yusup, P.M., Saepudin, E., & Rodiah, S. 2017. Pendidikan literasi lingkungan sebagai penunjang desa wisata agro Kecamatan Padaherang Kabupaten Pangandaran. *Jurnal Aplikasi Ipteks Untuk Masyarakat*, 6(2):111–115. <http://jurnal.unpad.ac.id/dharmakarya/article/download/14781/7897>
- Kusumaningrum, D. 2018. Literasi lingkungan dalam kurikulum 2013 dan pembelajaran IPA di SD. *Indonesian Journal of Natural Science Education (IJNSE)*, 1(2):57–64. <https://doi.org/10.31002/nse.v1i2.255>
- Machfutra, E.D., Noor, A., Asropi, A., Luxiarti, R., & Mutmainah, N.F. 2018. Hygienic and healthy behaviour of female islamic boarding house students at Pesantren X Yogyakarta. *Buletin Penelitian Sistem Kesehatan*, 21:1410–2935. <https://doi.org/10.22435/hsr.v21i4.930>
- Mahanal, S. 2011. Strategi pembelajaran biologi, gender dan pengaruhnya terhadap kemampuan berpikir kritis. *Seminar Nasional IX Pendidikan Biologi FKIP UNS*, 1–7. <https://jurnal.uns.ac.id/prosbi/article/view/7442>
- Masturina, D. 2018. Pengaruh kompetensi diri dan kepercayaan diri terhadap perencanaan karir. *Psikoborneo*, 6(2):340–350. <http://ejournals.unmul.ac.id/index.php/psikoneo/article/view/4558>
- Mawardi, K. 2008. Madrasah Banat: Potret pendidikan anak perempuan NU masa kolonial Belanda. *Yinyang: Jurnal Studi Islam, Gender Dan Anak*, 3(2):239–254. <http://ejournal.iainpurwokerto.ac.id/index.php/yinyang/article/view/200>
- McBeth, B., Hungerford, H., Marcinkowski, T., Volk, T., Cifranick, K., Howell, J., & Meyers, R. 2011. National environmental literacy assessment, phase two: measuring the effectiveness of North American environmental education programs with respect to the parameters of environmental literacy. Final report. In *NOAA and NAAEE. Accessed November* (Vol. 28).
- Mcbeth, B., Hungerford, H., Marcinkowski, T., Volk, T., Meyers, R., Meyers, R., Potter, G., Schoedinger, S., & Day, B. 2008. *National Environmental Literacy Assessment Project: Year 1, National Baseline Study of Middle Grades Students Final Research Report*.

- McBeth, B., Marcinkowski, T., Giannoulis, C., Hungerford, H., Volk, T., Howell, J., & Schoedinger, S. 2014. *Secondary Analyses of the national environmental literacy assessment: Phase one & phase two student, teacher, program, and school surveys*. <https://cdn.naaee.org/sites/default/files/eeopro/resource/files/finalresearchreport.pdf>
- McBeth, W. & Volk, T.L. 2009. The national environmental literacy project: A baseline study of middle grade students in the United States. *Journal of Environmental Education*, 41(1):55–67. <https://doi.org/10.1080/00958960903210031>
- Mukri, S.G. 2013. Modernisasi sistem pendidikan karakter. *Fikrah: Journal of Islamic Education*, 6(1):1–19. <http://ejournal.uika-bogor.ac.id/index.php/FIKRAH/article/view/124>
- Najwa, I. 2018. *Peran KH. Achmad Zamachsyari dalam Mengembangkan Pondok Modern Al-Rifa'ie Malang Tahun 1999-2012*.
- Nasution, R. 2016. Analisis kemampuan literasi lingkungan siswa SMA Kelas X di Samboja dalam pembelajaran biologi. *Proceeding Biology Education Conference*, 352–358. Pendidikan Biologi FKIP UNS.
- Nofiana, M. & Julianto, T. 2018. Upaya peningkatan literasi sains siswa melalui pembelajaran berbasis keunggulan lokal. *Biosfer: Jurnal Tadris Biologi*, 9(1):24-32. <https://doi.org/10.24042/biosf.v9i1.2876>
- Nofiaturrehman, F. 2017. Metode pendidikan karakter di Pesantren. *Jurnal Pendidikan Agama Islam*, 11(2):201–216. <https://doi.org/10.14421/jpai.2014.112-04>
- Nugraha, F., Permanasari, A., & Pursitasari, I.D. 2021. Disparitas literasi lingkungan siswa sekolah dasar di Kota Bogor. *Jurnal IPA dan Pembelajaran IPA*, 5(1):15–35. <https://doi.org/10.24815/jipi.v5i1.17744>
- Nuraini, N., Tindangen, M., & Maasawet, E.T. 2016. Analisis permasalahan guru terkait perangkat pembelajaran berbasis model inquiry dan permasalahan siswa terkait kemampuan pemecahan masalah dalam pembelajaran biologi di SMA. *Jurnal Pendidikan - Teori, Penelitian, dan Pengembangan*, 1(10):2066–2070. <https://doi.org/10.17977/jp.v1i10.7653>
- Nurwidodo, N., Amin, M., Ibrohim, I., & Sueb, S. 2020. The role of eco-school program (Adiwiyata) towards environmental literacy of high school students. *European Journal of Educational Research*, 9(3):1089–1103. <https://doi.org/10.12973/euler.9.3.1089>
- Parmin, P. & Savitri, E.N. 2020. The influence of science, environment, technology, and society in creative industries on scientific based business designing skills of pre-service science teachers. *Jurnal Pendidikan Sains Indonesia*, 8(1):27–38. <https://doi.org/10.24815/jpsi.v8i1.15362>
- Rifaudin, M., Ariyanti, N.N., & Pratama, B.A. 2020. Pembinaan literasi di pondok pesantren sebagai bekal santri hidup bermasyarakat. *Info Bibliotheca*, 1(2):99–112. <https://doi.org/10.14421/jpai.2014.112-04>
- Saribas, D. 2015. Investigating the relationship between pre-service teachers' scientific literacy, environmental literacy and life-long learning tendency. *Science Education International*, 26(1):80–100. <https://files.eric.ed.gov/fulltext/EJ1056471.pdf>

- Sarwar, S. 2017. Influence of parenting style on children's behaviour. *Journal of Education and Educational Development*, 4(1):94–110.
- Sarwono, J. 2010. Pengertian dasar structural equation modeling (SEM). *Jurnal Ilmiah Manajemen Bisnis Ukrida*, 10(3):173–182. <http://ejournal.ukrida.ac.id/ojs/index.php/IMB/article/view/576>
- Sirait, N.F. 2012. *Hubungan tingkat pengetahuan dan kemampuan berfikir kritis terhadap perilaku mencintai lingkungan siswa SMA Negeri Se-Kota Medan*. Universitas Negeri Medan.
- Sya'ban, M.B.A. 2018. Tinjauan mata pelajaran IPS SMP pada penerapan pendidikan lingkungan hidup untuk peduli akan tanggung jawab lingkungan. *Jurnal Geografi, Edukasi Dan Lingkungan (JGEL)*, 02(01):32–44. <https://doi.org/10.29405/jgel.v2i1.1018>
- Tanszil, S.W. 2012. Model pembinaan pendidikan karakter pada lingkungan pondok pesantren dalam membangun kemandirian dan disiplin santri. *Jurnal Penelitian Pendidikan*, 13(2):1–18.
- Wibowo, A. & Saidiyah, S. 2018. Proses pengasuhan ibu bekerja. *Jurnal Psikologi Integratif*, 1(2):105–123. <https://doi.org/10.14421/jpsi.2013.%25x>
- Widianingsih, W.M., Karyanto, P., Prayitno, B.A., & Irawati, M. 2017. Environmental learning through development of subject specific pedagogy based on problem based learning to reinforce student's environmental literacy in grade X MIA senior high school. *Proceeding Biology Education Conference*, 14:441–448.
- Yunansah, H. & Herlambang, Y.T. 2017. Pendidikan berbasis ekopedagogik dalam menumbuhkan kesadaran ekologis dan mengembangkan karakter siswa Sekolah Dasar. *EduHumaniora: Jurnal Pendidikan Dasar Kampus Cibiru*, 9(1):27-38. <https://doi.org/10.17509/eh.v9i1.6153>
- Zammi, M. & Khoiriyah, K. 2018. Analisis kemampuan soft skills siswa kelas XI SMK Futuhiyyah Mranggen Demak. *Phenomenon : Jurnal Pendidikan MIPA*, 8(2):41-49. <https://doi.org/10.21580/phen.2018.8.2.2487>