

# **Environmental Conscious Attitudes of Geography Education Students**

Suciati<sup>1</sup>

<sup>1</sup>Geography Education, Faculty of Social Sciences, Universitas Negeri Semarang, Indonesia

# **Article Info**

## Article history:

Received Nov 30, 2023 Revised Dec 21, 2023 Accepted Jan 19, 2024 OnlineFirst Jan 31, 2024

#### Keywords:

Attitude Environmental conscious Students

# ABSTRACT

**Purpose of the study:** The research aims to: 1) determine attitudes towards protecting the campus environment for Geography education students, 2) determine attitudes towards preserving the campus environment for Geography education students, 3) determine attitudes towards utilizing the campus environment for Geography education students.

**Methodology:** The Geography education student population was 197 students, the sampling technique used purposive sampling with the characteristics of the 2006-2010 class of students who had taken PKLH, namely 50 students. The variables in the research are attitudes towards protecting, preserving and utilizing the campus environment for Geography education students. The data analysis technique uses descriptive percentages.

**Main Findings:** The research results showed that as many as 90% of Geography education students were in the good category in being aware of the campus. Students have attitudes towards environmental protection such as views, feelings and efforts to plant trees and to attend seminars in the context of environmental protection on campus. Students have an attitude towards preserving the environment, such as having views, feelings and tendencies to act on waste management, reducing paper use and saving electrical energy on campus. Students have an attitude towards recycling rubbish, composting, using used goods on campus.

**Novelty/Originality of this study:** Due to the fact that there are still some students who do not have an environmentally conscious attitude, this research examines the Environmental Conscious Attitude of Geography Education Students.

This is an open access article under the <u>CC BY-NC</u> license



## *Corresponding Author:* Suciati, Geography Education, Faculty of Social Sciences, Universitas Negeri Semarang, Sekaran, Kec. Gn. Pati, Kota Semarang, Jawa Tengah 50229, Indonesia Email: suciatiti31@gmail.com

## 1. INTRODUCTION

Recently, disasters in the form of floods, drought, water, soil and air pollution, rising temperatures and poisoning by pesticides have been widely reported by the mass media. This is a threat to the continuity of our lives who want to live prosperously on earth. The emergence of an environmental crisis is caused by the unbalanced interaction between humans and their environment resulting in ecological damage such as soil damage, environmental pollution, and so on. This situation is increasingly magnified by the excavation and utilization of natural resources to support human life as a result of rapid population growth [1]-[4].

Concluded that 92.16% of waste was not separated between organic and inorganic waste [5]-[9]. This happens a lot in the city of Semarang, especially in the Sekaran sub-district environment. Most of the residents of the Sekaran sub-district are students, so it can be concluded that an environmentally conscious attitude to

separate organic and inorganic waste has not yet emerged. Based on this problem, it will have an impact on environmental pollution and damage to the Unnes campus environment if students do not have awareness in separating organic and inorganic waste.

Natural damage cannot be allowed to continue, the reasoning behind production practices that place the environment and nature in general as victims must also be stopped. For the sake of the sustainability of life, new reasoning is needed in which humans and the environment are positioned wisely, as from nature. This reasoning places the environment as a minor party and the human species as the superior party. Based on this, the world and the academic community have a social-moral responsibility [10]-[14].

The world of education cannot be separated from student education as potential successors to the world of teaching. Students have a very important role in the progress and development of the Unnes program to become a Conservation University, for this reason there needs to be support from the entire academic community to launch the Unnes program to become a Conservation University. This mild reality in the world of higher education is actually followed by many other fatal realities regarding the use of natural resources that are not managed efficiently, a matter of concern when all of the subjects or actors are students and academic practitioners who usually think critically when dealing with dynamic world [15]-[21].

Geography education students should have an environmentally conscious attitude with the support of existing programs such as reducing air pollution gases by walking, commemorating Environment Day, commemorating Earth Day, commemorating World Water Day and taking part in regular tree planting events and caring for them so that they can create comfort for the long term, disposing of waste wisely so that the organic can decompose to fertilize the soil and the inorganic can be reused, using online assignment system facilities because you know how important it is to save paper usage, using air conditioning sparingly and all other activities as a symbol of student have an environmentally conscious attitude.

There are still some students who do not have an environmentally conscious attitude, such as students who do not throw away their rubbish in the right place. It can be seen that there is still rubbish scattered on the floor. There is low awareness of students in protecting plants on campus, such as there are still students who step on campus plants even though there are signs prohibiting them from stepping on the plant area [22]-[27]. After the lecture is finished, students still leave the lights on and not in use. Students' low environmental awareness was also demonstrated when there was an event on campus about making learning aids using recycled paper. Only a few students took part in the event.

Based on the description above, the researcher is very interested in conducting this research with the aim of knowing the attitudes towards protecting the campus environment of students majoring in Geography education who are still active in the 2012 Academic Year, knowing the attitudes towards preserving the campus environment of students majoring in Geography education who are still active in the 2012 Academic Year, knowing attitudes towards the use of the campus environment for Geography education students who are still active in the 2012 Academic Year.

#### 2. RESEARCH METHOD

The location used to conduct this research was the Geography Department, Faculty of Social Sciences, Unnes, Sekaran, Gunungpati District, Semarang City. The population of this study included students majoring in Geography education who were still active in the 2012 Academic Year and had taken PKLH courses. The total population is 197 students. The sampling technique in this research used a purposive sampling technique with the characteristics of students from the 2006-2010 class who had taken PKLH courses. A sample of 25% of the population was 197 Geography education students (class of 2006-2010), namely 50 people.

In accordance with the title of this research, namely the environmentally conscious attitude of Geography education students, the variables of this research are as follows.

Students have feelings (affection), thoughts (cognition) and action predispositions (conation) towards: 1) Unnes' green campus, 2) cycling or walking while studying, 3) creating and maintaining biopores, 4) attending seminars/discussions in terms of protection environment. Students have feelings (affection), thoughts (cognition) and action predispositions (conation) towards: 1) separating organic and inorganic waste, 2) reducing paper consumption, 3) turning off the lights, 4) turning off the computer. Students have feelings (affection), thoughts (cognition) and action predispositions (conation) towards: 1) using used paper as a learning medium, 2) participating in making compost fertilizer, 3) using dry leaves, plastic and used bottles.

The data collection method used in the research was using a questionnaire. This questionnaire is used to obtain data about the environmental awareness attitudes of Geography education students in the form of optional questions (open questionnaire). The analytical method used in this research is the descriptive percentage method. This method is used to determine the environmental awareness attitudes of students majoring in Geography Education. How to analyze environmental awareness attitude data is carried out in the following steps. 1) Scoring, Give a score to each respondent's answer with the condition that answer A has a score of 1, B has a

score of 0; 2) Classification, After scoring, the criteria for each score are provided. The criteria for the environmentally conscious attitude variable can be seen in Table 1.

Table 1. Answer score criteria					
	Answer	Score			
-	А	1			
	В	0			

Calculate the frequency for each answer category in each variable, sub-variable and sub-sub-variable. The steps are as follows.

- a. Calculate maximum score with formula
  - Maximum score =  $\sum$  variable questions  $\times$  highest score
- b. Calculate minimum score with formula
  - Minimum score =  $\sum$  variable questions  $\times$  lowest score
- c. Determine the range with a formula
- Range = Maximum score Minimum score d. Determining intervals with formulas
  - Interval =  $\frac{range}{range}$

- e. Parameters are divided into 2, namely conscious and unconscious Calculate the frequency for each criterion
- f. The frequencies obtained are then presented using a formula

$$r = \frac{J}{\sum respondent} \times 100$$

= frequency of respondents for sub-variable criteria

 $\sum$  respondent = number of respondents in the study

## 3. RESULTS AND DICUSSION

The research respondents were students from the Education Department who were still active in the 2012 academic year. The population for this study was all students from the Education Department who were still active as Geography education students totaling 197 students. The population is small so a purposive sampling technique was used based on the characteristics of Geography education students who have taken PKLH. The sample used in this research was 25% of the total population with a sample of 50 people.

#### Location of research location

The author's research location is located in the Geography Department of the Unnes campus complex, Sekaran, Gunungpati District, Semarang City. The Geography Department is one of the departments at the Unnes Faculty of Social Sciences with coordinates 7003'09"- 7006'49"S and 110038'54"- 110041'05"E.

The Geography Department has 3 educational programs (Prodi), namely Bachelor of Geography, Bachelor of Geography Education, and D3 of Regional Mapping Survey. The objects studied in this research were Geography education students from Class 2006 to 2010. The research locations used in the researcher's research were buildings C1 and C5.

#### **Physical Conditions of the Geography Department**

Facilities and infrastructure to support lectures in the Geography Department include building facilities for holding lectures, libraries and laboratories. The buildings used to hold lectures are in the Unnes Faculty of Social Sciences complex, namely building C1 on floors II and III, as well as building C5 as a laboratory, lecture and library on floors II and III. The library in the Geography Department has a complete collection of books to support lectures. The laboratories owned by the Unnes Geography Department include: Geology and Geomorphology Laboratory, Cartography Laboratory, Cosmography Laboratory, Soil Laboratory and GIS Laboratory. Another facility is that each class is equipped with LCD, VCD and OHP.

The condition of the Geography Department building is cleaner than other departments, the rooms are neatly arranged. The Geography Department in C1 has many plants in pots which are the work of students. The bathrooms in this department are clean and the lights are off when the bathroom is not in use. In front of this building there are many well-maintained and fertile plants. This department has 2 waste bins, namely organic waste and inorganic waste. The library in the C5 building looks clean and comfortable.

#### **Geography Students' Environmental Conscious Attitudes**

The author's research will discuss the description of environmentally conscious attitude data for Geography education students.

Geography Education Students' Environmental Conscious Attitude

An environmentally conscious attitude is a view, feeling, and action tendency to raise awareness so that you not only know about waste, pollution, greening, but more than that, raise awareness of environmental protection, environmental preservation, and sustainable use of the environment.

Research on environmental awareness by distributing questionnaires to Geography Education Study Program students. The questionnaire measuring environmental awareness consists of 3 parts, namely attitudes towards protecting the campus environment, attitudes towards preserving the campus environment and sustainable use of the campus environment. The calculation of the results of the answers to this environmentally conscious attitude instrument is the sum of all the results of the answers to calculations of attitudes towards protecting, preserving and sustainable use of the environment. Based on the research results, the number of answers from the environmental awareness instrument for Geography education students can be presented in Table 2.

Table 2. Number of answers to the environmental awareness instrument for geography education students

Answer	Total	%
Agree	949	82.5
Don't agree	201	17.5
Amount	1150	100.0

Based on Table 2, it is known that from 50 respondents, the data obtained were 949 (82.5%) agreed answers from all Geography education students, 201 (17.5%) disagreed answers. More details regarding the environmentally conscious attitude of students majoring in Geography education can be seen from the description of each variable for the environmentally conscious attitude of Geography education students as follows.

Results of Geography Education Students' Attitude Instrument Answers in Environmental Protection at the Unnes Campus

The student attitude variable in protecting the Unnes campus environment consists of 7 questions, namely 3 questions about Geography education students' views on the campus environment, 2 questions about feelings of being happy or unhappy with protecting the campus environment, and 2 questions about actions for efforts to take part in campus protection.

Table 3. Results of answers to the student attitude instrument in protecting the Unnes campus environment

Answer	Total	%
Agree	309	88.20
Don't agree	41	11.80
Amount	350	100.00

Based on the research results in Table 3, it can be seen from 50 respondents that direct information was obtained that the total number of students majoring in Geography education was 309 (88.2%). The number of students who disagreed was 41 (11.8%).

Results of Answers to the Student Attitude Instrument in Preserving the Unnes Campus Environment

This variable aims to reveal what percentage of the number of agree and disagree answers from the questionnaire is related to students' attitudes towards environmental preservation. Attitudes towards preserving the campus environment consist of 3 questions regarding students' views towards preserving the campus environment, 3 questions regarding feelings of enjoyment towards preserving the campus environment, and 2 questions regarding student actions towards preserving the campus environment. The number of instrument answers relating to attitudes towards environmental preservation can be presented in Table 4 below.

Table 4. Results of answers to the student attitude instrument in preserving the Unnes campus environment

Answer	Total	%
Agree	330	82.50
Don't agree	70	17.50
Amount	400	100.00

Based on the research results in Table 4, it is known that from 50 respondents, 330 (82.5%) students of Geography education obtained agree answers and 70 (17.5%) disagree answers.

Results of Answers to the Student Attitude Instrument in Sustainable Utilization of the Unnes Campus Environment

The results of the answers to the instrument on students' attitudes towards sustainable use of the Unnes campus environment are used to reveal the percentage of agreeing and disagreeing answers from the instrument related to students' attitudes towards using the campus environment. The questionnaire items regarding students' attitudes towards sustainable use of the Unnes campus environment consist of 3 items regarding students' views on environmental use, 2 feelings of enjoyment regarding the use of the campus environment, and 3 items regarding actions for efforts to follow in terms of utilizing the campus environment. The number of instrument answers relating to students' attitudes towards sustainable use of the Unnes campus environment can be presented in Table 5 as follows.

Table 5. Number of answers to instruments on geography education students' attitudes towards environmental

use				
Answer	Total	%		
Agree	315	78.8		
Don't agree	85	21.2		
Amount	400	100.0		

Based on Table 5, it shows that there were 315 (78.8%) agreed answers from 50 Geography education student respondents, while 85 (21.2%) disagreed answers.

#### Attitudes towards the Unnes Campus Environment

The attitude of protecting the campus environment is the views, feelings and use of protection aimed at maintaining campus ecological processes that support the continuity of life to improve the welfare of the campus community and the quality of human life in the Unnes campus environment. Based on the results of research on attitudes towards campus environmental protection from 50 respondents, direct information was obtained that there were 46 students majoring in Geography education who had a good attitude towards environmental protection on the Unnes campus (92%), and 4 students (8%) had a bad attitude. The average score of all respondents was 6.38. A score of 0-<3.5 is said to be not good and a score of >3.5-7 is said to be good, thus indicating that the average student has a good conscious attitude towards environmental protection.

Based on the results of research on attitudes towards protecting the campus environment which consists of views towards planting trees. Students' feelings towards caring for campus plants and caring for biopores. The tendency to take action to water flowers, maintain cleanliness, the tendency to take part in seminars in order to protect the campus environment [28]-[30]. Based on research results, 92% of students have views, feelings and tendencies to take action to protect the environment for the sake of comforting the campus environment, realizing conservation, and preventing damage to the campus environment. The factors that influence students to have an attitude towards protecting the campus environment are because students already have knowledge about the environment, so that after the students know about environmental knowledge they will apply their knowledge to their daily lives.

Students who are reluctant to walk because the distance between their boarding house and campus is far, are in a hurry to get home from their boarding house. Students are reluctant to make biopori because making biopori takes a long time to make. Factors that influence students to answer that making biopori takes a long time to make, because the students do not know how to make biopori. In fact, according to Brata's opinion, the Department of Soil Science and Land Resources, the way to make biopores is by making a cylindrical hole into the ground with a diameter of 10 cm, a depth of about 100 cm, and the hole is filled with organic waste, so making biopores is said to be easy and takes a short time. So the right solution so that students know how to make biopori.

# Attitudes towards Preserving the Unnes Campus Environment

Attitudes towards environmental preservation on the Unnes campus are views, feelings and tendencies towards efforts to maintain and develop natural resources to avoid extinction. Based on the research results, it shows that 43 students majoring in Geography education have an attitude towards preserving the Unnes campus environment or 86%. As many as 7 students or 4% do not have an aware attitude towards the campus environment. The average score of all respondents is 6.6. A score of 0-<4 is said to be not good and a score of >4-8 is said to be good.

Based on research results, Geography education students' attitudes towards environmental preservation consist of views, feelings and action tendencies towards waste management, reducing paper use and saving electrical energy.

Based on research results, 86% of students have an attitude towards preserving the campus environment on the grounds that it avoids pollution of the campus environment and that waste can be recycled again, saving energy, for the sake of realizing Unnes Conservation. The factors that influence students to answer with this reason are because students have environmental knowledge so that students know the causes of environmental damage caused by humans [31]-[34].

As many as 4% of students who do not have an attitude towards preserving the environment do not like using sikadu to reduce paper on the grounds that the sikadu often makes errors so that students' work is hampered in addition to the fact that students have a lot of assignments. The reason why students do not agree to use sikadu is because students do not realize how important it is to save paper in order to maintain forest integrity and environmental damage. The right solution for students who do not agree with reducing paper is that students are given knowledge about environmental preservation.

## Attitudes towards Utilizing the Unnes Campus Environment

Attitudes towards sustainable use of the environment are views, feelings and tendencies to take action regarding the condition of nature conservation areas and plant species. Based on the results of the research, it shows that 50 Geography education student respondents who have attitudes towards environmental utilization show that students majoring in Geography education who have good attitudes towards sustainable use of the campus environment are 45 students or 90%, while only 5% of those who are not good.

Based on the results of research on attitudes towards sustainable use of the environment which consists of views, feelings and tendencies in students' actions towards recycling waste, composting, and using used goods.

Based on research results, 90% of students have an attitude towards utilizing the campus environment for reasons of increasing student income, preventing environmental pollution, preventing damage to the campus environment, fostering students' entrepreneurial spirit and fostering creativity. Students have environmental knowledge, apart from that, students also learn to be frugal in everyday life. Students who do not have an attitude towards environmental use because they do not have free time to carry out these activities. The factors that influence students to answer this reason are because of humanitarian factors that influence the environment, especially student lifestyles which are caused by the emergence of lifestyles, having fun and wanting to follow the latest fashions so that it will damage the environment, besides that students are busy doing college assignments so there is no free time to take part in activities related to environmental use.

The reason why students do not have an environmentally conscious attitude is due to ignorance and human factors. The meaning of ignorance is that students do not yet have knowledge about the environment, so this will clearly affect environmental awareness. Human factors greatly influence the environment, especially student lifestyles which are caused by the emergence of a global lifestyle through trade, travel, television, and they lay the basic framework for a global lifestyle. environment. Environmental awareness is an effort to raise awareness so that we not only know about waste, pollution, greening but more than that, raise environmental awareness. The environmental ethics currently in force are environmental ethics which are based on a value system that positions humans as biological creatures. Environmental awareness is applied in conservation principles, namely the protection, preservation and sustainable use of the environment [35]-[37].

Environmental awareness can be achieved through environmental education, that is, population and environmental problems are not only addressed by carrying out technical efforts, but must be supported by educative and persuasive efforts, this is done by implementing Environmental Population Education from childhood to college. These institutions, in this case, universities or schools, must support efforts to be environmentally conscious. Students have an important position and role in developing an environmentally conscious attitude on the Unnes campus. Now students have spread their wings and are taking action in the field to implement an environmentally conscious attitude, for example handling waste, participating in the one tree per student program, using bicycles to campus and not smoking in the campus area. Based on research results, there are 45 Geography education students who have an environmentally conscious attitude. students (90%), and those who were not environmentally conscious were 5 students (10%).

## 4. CONCLUSION

Most of the attitudes towards protecting the campus environment of Geography education students are in the good category, such as students' views on planting trees, students' feelings towards caring for campus plants and taking care of biopores, and the tendency to water flowers, maintain cleanliness and the tendency to take part in seminars in the context of protecting the campus environment. This is shown by the environment in the Geography department being cleaner than other departments. The attitudes towards preserving the campus environment of Geography education students are in the good category, such as students from the perspective of waste management, reducing paper use, saving electrical energy, feeling happy about waste management, saving electrical energy and reducing paper use and the tendency to take action towards waste management, reducing paper use and saving electrical energy. Attitudes towards Environmental Utilization of Geography Education Department Students. The attitudes towards preserving the campus environment of Geography education students are in the good category, such as students having views towards recycling waste, composting, using used goods, feelings towards recycling waste, composting, using used goods, and the tendency to take action towards recycling waste. , utilization of used goods.

#### ACKNOWLEDGEMENTS

I would like to express a thousand thanks to all parties who have helped me in carrying out this research. Furthermore, I also thank you for your support in completing this research.

#### REFERENCES

- [1] S. Sunarko, Diktat Perkuliahan Pendidikan Kependudukan dan Lingkungan Hidup. Semarang: UNNES, 2007.
- [2] M. Sholeh, "Model Pengelolaan Sampah Kos-kosan di Keluahan Sekaran Gunung Pati Semarang". Dalam Forum Ilmu Sosial. Hal 88, 2011.
- [3] F. T. Aldila., M. M. Matondang., and L. Wicaksono, "Identifikasi minat belajar siswa terhadap mata pelajaran fisika di sman 1 Muaro Jambi," *Journal of Science Education and Practice*, vol. 4, no. 2, pp. 22–31.
- [4] W. A. Putri., R. Fitriani., E. F. Setya Rini., F. T. Aldila., and T. Ratnawati, "Pengaruh motivasi terhadap hasil belajar siswa sekolah menengah pertama," SAP (Susunan Artikel Pendidikan), vol. 5, no. 3, pp. 248–254, 2021, doi: 10.36987/jpms.v7i1.1942
- [5] Y. I. Suhara., N. D. Kiska., and F. T. Aldila, "Hubungan karakter gemar membaca terhadap hasil belajar tematik peserta didik sekolah dasar," *Integrated Science Education Journal*, vol. 3, no. 1, pp. 11–15, 2022, doi: 10.37251/isej.v3i1.182
- [6] F. T. Aldila., R. P. W. Yuda., M. Wulandari., and A. P. Ningsi, "Deskripsi Keterampilan Proses Sains Siswa SMAN 10 Muaro Jambi pada Materi Kesetimbangan pada Tali," *Jurnal Pendidikan Fisika*, vol. 9, no. 2, pp. 112–119, 2020.
- [7] B. C. Putri., F. T. Aldila., and M. M. Matondang, "Hubungan Antara Karakter Motivasi Belajar dengan Hasil Belajar Siswa," *Integrated Science Education Journal*, vol. 3, no. 2, pp. 45–49, 2022, doi: 10.37251/isej.v3i2.252
- [8] A. Astalini, D. Darmaji, D. A. Kurniawan, H. Jaya, and S. M. Husna, "Analysis of Teacher Responses to the Use of Web-based Assessment to Assess Students' Attitudes towards Science Subjects", *In. Sci. Ed. J*, vol. 3, no. 3, pp. 66-71, 2022, doi: 10.37251/isej.v3i3.282
- [9] F. T. Aldila and E. F. S. Rini, "Teacher's Strategy in Developing Practical Values of the 5th Pancasila Preepts in Thematic Learning in Elementary School," *Journal of Basic Education Research*, vol. 4, no. 1, 2023.
- [10] A. Astalini, D. Darmaji, D. A. Kurniawan, N. Septiani, and M. Z. Azzahra, "Revitalizing Science Education: Teachers' Response to Embedding Adat Bersendi Syara' and Syara' Bersendi Kitabullah Values into the Learning Process", *In. Sci. Ed. J*, vol. 4, no. 3, pp. 117-122, 2023, doi: 10.37251/isej.v4i3.735
- [11] S. Mundarti and F. T. Aldila, "Affective Assessment Instrument Based on Krathwohl-Anderson Taxonomy in Senior High School," *Journal Evaluation in Education (JEE)*, vol. 4, no. 2, pp. 74–79, 2023, doi: 10.37251/jee.v4i2.323
- [12] E. C. Nwune, N. K. Oguezue, and B. I. Odum, "Secondary School Students' Perception of Science Laboratory Accident Status and Preventive Measures in Awka Education Zone", *In. Sci. Ed. J*, vol. 4, no. 3, pp. 104-110, 2023, doi: 10.37251/isej.v4i3.550
- [13] E. F. S. Rini., and F. T. Aldila, "Practicum Activity: Analysis of Science Process Skills and Students' Critical Thinking Skills," *Integrated Science Education Journal*, vol. 4, no. 2, pp. 54–61, 2023, doi: 10.37251/isej.v4i2.322
- [14] E. Sukmanasa., T. Windiyani., and L. Novita, "Pengembangan Media Pembelajaran Komik Digital pada Mata Pelajaran Ilmu Pengetahuan Sosial Bagi Siswa Kelas V Sekolah Dasar di Kota Bogor," *Jurnal Pendidikan Sekolah Dasar*, vol. 3, no. 2, pp. 171–185, 2017, doi: 10.30870/jpsd.v3i2.2138
- [15] L. Nahar, "The Effects of Standardized Tests on Incorporating 21st Century Skills in Science Classrooms", In. Sci. Ed. J, vol. 4, no. 2, pp. 36-42, 2023, doi: 10.37251/isej.v4i2.324
- [16] H. Harizon, "Description of Teacher Responses to the Implementation of Student Process Skills Portfolio Assessment", In. Sci. Ed. J, vol. 4, no. 3, pp. 128-134, 2023, doi: 10.37251/isej.v4i3.731
- [17] A. Astalini, D. Darmaji, D. A. Kurniawan, R. I. Widodo, and S. Rohana, "Junior High School Teacher's Forum Group Discussion Response on Application of Adat Bersendi Syara' Syara' Bersendi Kitabullah in Learning", *Jor. Eva. Edu*, vol. 3, no. 4, pp. 102-107, 2022, doi: 10.37251/jee.v3i4.283
- [18] F. S. Wahid., A. Mutaqin., and Y. Yasin, "Pengembangan Media Pembelajaran Komik Digital untuk Siswa Sekolah Dasar," *Jurnal Binawakya*, vol. 16, no. 5, pp. 6873–6882, 2021.
- [19] A. Ramadhanti, "Literature Study: Application of Positive Psychology to the Field of Education in Indonesia", Jor. Eva. Edu, vol. 4, no. 2, pp. 62-67, 2023, doi: 10.37251/jee.v4i2.309
- [20] D. T. Ratnasari and A. Ginanjar, "Pengembangan Komik Digital sebagai Media Edukasi Penanggulangan Bencana Alam," *Naturalistic: Jurnal Kajian dan Penelitian Pendidikan dan Pembelajaran*, vol. 4, no. 1, pp. 481–488, 2019.
- [21] M. Maria, S. Silalahi, Y. Aggarwal, and U. Galadima, "Implementation of Science Student Work Sheet Based on Multiple Intelligence Materials Temperature and Their Changes", *Jor. Eva. Edu*, vol. 4, no. 3, pp. 104-109, 2023, doi: 10.37251/jee.v4i3.698

- [22] M. Mahirullah., S. M. Husna., and F. Adriani, "Analysis of the Application and Correlation of the Murder Type Collaborative Learning Model on Student Learning Outcomes at Senior High School Jambi", *Jor. Eva. Edu*, vol. 4, no. 1, pp. 21-30, 2023, doi: 10.37251/jee.v4i1.293
- [23] A. Asrial., S. Syahrial., D. A. Kurniawan., F. T. Aldila., and M. Iqbal, "Gender and Perception: Implementation of Web-based Character Assessment on Students' Character Outcomes," *International Journal of Instruction*, vol. 15, no. 4, pp. 311–338, 2022, doi: 10.23887/jere.v6i1.37737
- [24] D. Darmaji., A. Astalini., D. A. Kurniawan., and F. T. Aldila, "Students' Perceptions in the Use of Web-Based Character Assessment: A View from Gender Perspective," *Jurnal Pendidikan Progresif*, vol. 11, no. 2, pp. 362–383, 2021, doi: 10.23960/jpp.v
- [25] A. Asrial., S. Syahrial., D. A. Kurniawan., F. T. Aldila., and M. Iqbal, "Implementation of Web-based Character Assessment on Students' Character Outcomes: A Review on Perception and Gender," *Journal of Technology and Science Education*, vol. 13, no. 1, pp. 301–328, 2023, doi: 10.29333/iji.2022.15418a
- [26] F. T. Aldila., E. F. S. Rini., S. Octavia., N. N. Khaidah., F. P. Sinaga., and N. Septiani, "The Relationship of Teacher Teaching Skills and Learning Interests of Physics Students of Senior High School," *Edufisika: Jurnal Pendidikan Fisika*, vol. 8, no. 1, pp. 101–105, 2023, doi: 10.59052/edufisika.v8i1.24864
- [27] M. Iqbal., D. A. Kurniawan., A. A. B. Ginting., F. T. Aldila., W. A. Putri., S. Maryani., and T. Ratnawati, "Hubungan Persepsi Siswa dalam Penggunaan Web-based Assessment dengan Karakter Siswa di SMPN 2 Batanghari," *Jurnal Pendidikan Edutama*, vol. 9, no. 1, pp. 51–60, 2022.
- [28] M. Fuadati and I. Wilujeng, "Web-Lembar Kerja Peserta Didik IPA Terintegrasi Potensi Lokal Pabrik Gula untuk Meningkatkan Rasa Ingin Tahu Peserta Didik," *Jurnal Inovasi Pendidikan IPA*, vol. 5, no. 1, pp. 98–108, 2019, doi: 10.21831/jipi.v5i1.24543
- [29] S. Susilowati, "Pengembangan Bahan Ajar IPA Terintegrasi Nilai Islam untuk Meningkatkan Hasil Belajar IPA," Jurnal Inovasi Pendidikan IPA, vol. 3, no. 1, pp. 78–88, doi: 10.21831/jipi.v3i1.13677
- [30] M. Widiyasanti and Y. Ayriza, "Pengembangan Media Video Animasi untuk Meningkatkan Motivasi Belajar dan Karakter Tanggung Jawab Siswa Kelas V," *Jurnal Pendidikan Karakter*, vol. 9, no. 1, pp. 1–16, 2018, doi: 10.21831/jpk.v8i1.21489
- [31] D. Darmaji., A. Astalini., D. A. Kurniawan., F. T. Aldila., and H. Pathoni, "Gender and Perception: Implementation of Web-based Character Assessment in Science Learning," *Journal of Education Research and Evaluation*, vol. 6, no. 1, pp. 131–142, 2022, doi: 10.23887/jere.v6i1.37737
- [32] G. Sala and F. Gobet, "Cognitive and academic benefits of music training with children: A multilevel metaanalysis," *Memory & cognition*, 48(8), 1429-1441, 2020.
- [33] M. Tervaniemi., V. Putkinen., P. Nie., C. Wang., B. Du., J. Lu., and S. Tao, "Improved auditory function caused by music versus foreign language training at school age: is there a difference?," *Cerebral Cortex*, vol. 32, no. 1, pp. 63-75, 2022.
- [34] F. Goltz and M. Sadakata, "Do you listen to music while studying? A portrait of how people use music to optimize their cognitive performance," *Acta psychologica*, vol. 220, pp. 103417, 2021.
- [35] P. Shah and G. Atisa, "Environmental education and awareness: the present and future key to the sustainable management of Ramsar convention sites in Kenya," *International Environmental Agreements: Politics, Law and Economics*, vol. 21, no. 4, pp. 611-630, 2021.
- [36] K. Wangeci and R. Njoroge, "Awareness and use of information resources to promote environmental protection and conservation at Kenya National Library Service, Nairobi," *African Journal of Education and Practice*, vol. 7, no. 3, pp. 1-13, 2021.
- [37] N. Wijayanto., F. U. Najicha., T. Agfianto., and A. A. Nugroho, "Environmental Conservation Based Ecotourism Concept Policy," *Baltic Journal of Law & Politics*, vol. 15, no. 3, pp. 190-201, 2022.