



NATURALISTIC INTELLIGENCE AND ENVIRONMENTAL AWARENESS AMONG STUDENTS – A CASE STUDY

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ABSTRACT:

We are born with an interest in everything around us from a young age. It is our human nature to explore, learn and discover what we do not know. Therefore, we love to classify and categorize objects' characteristics and common associate elements. The explained behaviors are associated with naturalistic intelligence, one of the intelligences we develop at the beginning of our lives. Naturalistic intelligence is defined as the ability to appreciate, categorize, classify, explain, and connect the things of everything life with nature. During the past few decades rapid industrialization, overexploitation of natural resources, and excessive use of environmentally abhorrent materials have resulted in discernible environmental disruptions threatening the life support system. Environmental Awareness is a concern about the environment or environmental problems. It implies not only knowledge about the environment but also attitude, values, and necessary skills to solve environmental problems. Moreover, environmental awareness is the initial step ultimately leading to the ability to carry on responsible behavior of citizens. This study aims to analyze the relationship between Naturalistic Intelligence with Environmental awareness among higher-level students. The target was higher level students because students in colleges or universities are an important part of responses to reduce environmental problems and bear profound responsibilities to increase awareness to create an environmentally sustainable future. The methodology of the study is Descriptive Case Study. 150 students were selected from different levels (M. A, B. ED, M. ED, RESEARCH SCHOLAR) of the Department of Education using purposive sampling techniques. Here, the researcher collected data using a self-developed questionnaire with 60 items which is verified by the expert. For data analysis researcher used Descriptive Statistics. There would be some significant differences concerning the different strata of the selected sample.

Keywords: *Naturalistic Intelligence, Environmental Awareness, Sustainable future, Environmental problems.*

INTRODUCTION: Intelligence is a concept that has been used and developed for centuries. At first, intelligence is considered as the concept of unity, but over time the concept of intelligence develops into multiple intelligences, which can be used to improve the intelligence of students. Everyone is born with multiple intelligences, but each person has diverse and unique intellectual strengths and weaknesses depending on how intelligence is developed. Multiple intelligences were first put forward by Howard Gardner in 1983. The theory of multiple intelligences is developed based on the idea that a person has a unique way of thinking to solve problems so the assessment of intelligence based on one or two aspects is considered inappropriate. Howard Gardner said in his book entitled "Frame of Mind". There are eight bits of intelligence were issued: (1) Linguistic intelligence, (2) Bodykinesthetic intelligence, (3) Logical-mathematical intelligence, (4) Special intelligence, (5) Musical intelligence (6) interpersonal intelligence, (7) Intrapersonal intelligence and (8) Naturalist intelligence. One of Gardner's multiple intelligence theories is naturalist intelligence which is identical to Biology learning. Naturalist intelligence uses the language of natural patterns, flora, fauna, species, groupings, subspecies categorizations, external and internal sensory experiences of the natural world, and all manner of encounters with plants, animals, water, and weather, ranging from microscopic, inorganic matter to natural phenomena seen with open eyes. The Environment is the source of life on earth and it not only directs but also determines the existence, growth, and development of mankind and all its activities. However, mankind's myopic surges to attain supremacy over Nature have impoverished the biodiversity, hydrosphere, atmosphere, and lithosphere. During the past few decades rapid industrialization, overexploitation of natural resources, and excessive use of environmentally abhorrent materials have resulted in discernible

environmental disruptions threatening the life support system. Such changes may jeopardize the very existence of life on this planet which evolved over millions of years. The Humancentric approach to development has already damaged nature to a large extent. Environment protection starts by creating awareness among the people so that it becomes part of their lifestyle. Environmental awareness can be created among different sections of society through Environmental Education. The Environment is the aggregate of all the external forces, influences, and conditions that affect life, nature, behavior, and the growth, development, and maturation of living organisms. The term environment embraces the conditions or influences under which an organism or thing exists, lives, or develops. Environmental Awareness is a concern about the environment or environmental problems. It implies not only knowledge about the environment but also attitude, values, and necessary skills to solve environmental problems. Moreover, environmental awareness is the initial step ultimately leading to the ability to carry on responsible behavior citizens. Environmental awareness provides the understanding and competence to recognize environmental resources and the interdependence between physical and biological components of the environment for growth and development. Developing students' knowledge and awareness of environmental issues has never been such an important goal of education as now. But this teaching must be based on knowledge of students' attitudes to the issue of environmental protection. Diversity in human traditions, religious and spiritual approaches and philosophical directions may lead to different views of nature and the environment, and consequently too diverse motivations and attitudes towards the environment. The environment should be safe, clean, and comfortable action so that it can be a place for an organism to live. Caring for the environment is attitude and preventing damage to the surrounding natural environment then making efforts to repair the natural damage that has occurred. So, based on the explanation, it can be concluded that awareness of the environment is an attitude manifested in everyday life to preserve, improve and prevent environmental damage and pollution.

REVIEW OF RELATED LITERATURE:

1. **Astalin, P. K. (2011)** Conducted on A Study of Environmental Awareness Among Higher Secondary Students and Some Educational Factors Affecting It. In this study investigator has tried to found the environmental awareness among higher secondary students and some educational factors affecting it. Total 608 students were selected from different board by using cluster random sampling technique having 280 male and 328 female students. For collecting data, the tool "Paryavaran Jagrukata Prashnavali" constructed by investigator was used. Post Hoc Tests, F-test and t-ratio test had been used for analysis of data. Main findings of this study are the students of 11th and 12th standard was identical as for as their environmental awareness was concerned. Science stream students had more environmental awareness in comparison to arts stream students. The CBSE students had more environmental awareness in comparison to UP Board students.
2. **Danielraja, R. (2019)** conducted A Study of Environmental Awareness of Students at Higher Secondary Level. The study was carried out with a sample of 180 students from Standard XII using environmental awareness scale for assessing the significance difference in the mean scores of environmental awareness. The results indicated that there was a significant difference in the mean scores of Environmental awareness between the students belonging to science group and arts group, there existed significant difference in the mean scores of Environmental awareness between the students belonging to science group and vocational group, there existed no significant difference in the mean scores of Environmental awareness between the students belonging to vocational group and arts group. There existed no significant difference in the mean scores of Environmental awareness between the students in terms of gender and in terms of types of institution.
3. **Faridy, F. & Rohendi, A. (2019)** opined that The Role of Parents in Developing Naturalistic Intelligence in early childhood. The research was conducted to analyse the role of parents in developing naturalistic intelligence in early childhood. The Research used quantitative method using case study design that focused on one particular objects. The data can be obtained from various sources and in the study data collection was carried out using observation sheets, in-depth interviews and documentation. The participants are randomly selected using snowball techniques. The findings of the study reveal that only 42% of parents are developing their children's naturalistic intelligence at home. It was also found that parents who develop their children's naturalistic intelligence love the environment so much that they want their children to love and protect the environment.
4. **Hartika, D. Diana, S. & Wulan, R. (2019)** studied on Relationship between Naturalist Intelligence with Environmental Attitude. This study aimed to describe the relationship between naturalistic intelligence and Environmental attitude among junior high school students in Bandar Lampung. To reach the aim, the design of this study was descriptive with a correlation study. The sample was determined by purposive sampling techniques with 210 students. Data were analyzed descriptively and using simple linear regression method. The result of this research showed that the relationship between naturalistic intelligence and environmental awareness categorized as moderate with a significant relationship
5. **Hasanah, N. Harmawati, D. Riyana, M. & Usman, A. N. (2019)** conducted a study on Improve Naturalist Intelligence of early Childhood through Gardening Activities in group children a Merauke state Pembina Kindergarten. This study aimed to improve the naturalist intelligence of early childhood in kindergarten children through gardening activities in the Merauke state Pembina kindergarten. This type of research is collaborative

classroom action research. Number of samples was 25 children. The method of data collection is done through speaking (verbal) test, observations and documentations. The research data were analyzed descriptively quantitatively. Naturalistic Intelligence is said to have succeeded in increasing if 80% of the 25 children have reached the indicator of Naturalistic Intelligence on criteria developed according to expectations. Through gardening activities can improve naturalistic intelligence in children MSP kindergarten.

6. **Jose, J. & Lakshmi, A. (2021)** studied on Naturalistic Intelligence and Pro-active Environmental Behaviour among Secondary School Students. The purpose of this study was to find out the level of Naturalistic Intelligence and pro-active environmental behaviour among secondary school students and also the relationship between Naturalistic Intelligence and Pro-Environmental Behaviour among secondary school students. Normative survey method was adopted for the study. A sample of 100 secondary school students was selected. The sample was taken with due representation to gender and locate. Here statistical techniques used were descriptive statistics, t-test and Pearson's product- moment of correlation. Percentage analysis was done to find out the level of Naturalistic Intelligence among secondary school students. Finally showed that majority of the students have a moderate level of Naturalistic Intelligence & there was not significance difference between the rural and urban students in their Naturalist Intelligence.
7. **Ningrum, Z. B. Budhisoesilo, T. E. & Herdiansyah, H. (2018)** conducted a study on Naturalistic Intelligence and Environmental Awareness among Graduate Students. This Study aimed to analyze the relationship between Naturalistic Intelligence with Environmental Awareness on Graduate Students at University of Indonesia. In this study Naturalistic Intelligence Is the Independent variable while Environmental Awareness is the Dependent Variable. The students who were selected randomly will be given a questionnaire as a research instrument. Afterward, a correlation analysis was conducted with Spearman test. The analysis showed that there is a strength and significant correlation between Naturalistic Intelligence with Environmental Awareness among graduate students with the value of coefficient correlation is 0.754.
8. **Supriadi, M. A. Astra, M. Japar, M. & Fitriyani, F. (2020)** studied on Learning Achievement: Outdoor Learning Model and Naturalist Intelligence. This study aims to determine the effect of outdoor learning models and naturalistic intelligence on student learning outcomes in science subjects. The research method used in this research is experimental design with independent and dependent variable. The research data were obtained through quantitative data in the form of science test results and a Likert scale from a naturalistic intelligence questionnaire. The result of this study indicates that science learning achievement of the students using the outdoor learning model and students using indoor learning models who have high naturalistic intelligence supported by statistical hypothesis testing. Finally concluded that, there is a significant difference in science learning achievement between groups of students using outdoor learning models and groups of students using indoor learning model.

OBJECTIVES:

The Researcher has framed the following objectives:

1. To find out the Naturalistic Intelligence among different level students.
2. To find out the Environmental Awareness among different level students.

RESEARCH QUESTIONS: According to research objectives, the research questions are-

1. How much Naturalistic Intelligence have in different level students?
2. How much they are aware of the environment?

METHODOLOGY:

The Researcher followed Descriptive Case Study Method for conducting the study. The important constructions of the study were:

- **Variable:** Researcher considered only two variables- Naturalistic Intelligence & Environmental Awareness.
- **Sample:** Researcher selected 110 students (M.A, B.Ed., M.Ed. & Scholars) of the Education Department under the University of Kalyani.

TABLE NO-1
Category- wise sample selection

CATEGORY	MALE	FEMALE	SCIENCE	ARTS	COMMERCE	TOWN	VILLAGE
M.A (43)	16	27	0	43	0	9	34
B. ED (39)	11	28	16	22	1	16	23
M.ED (11)	8	3	2	9	0	3	8
SCHOLAR (17)	9	8	1	16	0	3	14

- **Tools:** The Researcher has constructed one questionnaire consisting of 60 items for this study. Questionnaires were validated by the experts.

DATA ANALYSIS: Researchers have analyzed data according to the research objectives-

1. **1st Research Objective**, is to find out the Naturalistic Intelligence among different level students.

The Researcher found the following percentages in 3 options against 30 questions.

Table no-2:

List of questions according to their options

Items Options	All time	Some times	Never
1. I like to spend time in quiet and beautiful nature	65.5	35.5	0
2. I like to plant and take care of trees	56.4	43.6	0
3. I love to visit the mountain	42.7	54.5	2.8
4. I like to see the stars in the night sky	46.4	52.7	0.9
5. I love to play in the open field	50.9	42.7	6.4
6. I love the chirping of insects in the evening	24.5	55.5	20
7. I love watching Discovery/ National Geography Channel on TV	24.5	71.8	3.7
8. I can distinguish between loam and sandy soil	67.3	22.7	10.0
9. I like flowers in the garden	98.2	1.8	0
10. I understand the seasonal changes in trees	62.7	37.3	0
11. I love to play outside the house	57.3	36.4	6.3
12. I identify the herb (Bulsi, Basak) trees when I see it	80.9	19.1	0
13. I like to see green grass fields	97.3	2.7	0
14. I love animals around my house	65.5	34.5	0
15. I preserve various elements of nature	29.1	67.3	3.6
16. I like to swim	24.5	40.0	35.5
17. I love to read environmental books	35.5	62.7	1.8
18. I am interested in learning about the life cycle of an animal or plant	54.5	43.6	1.9
19. I know the benefits of herbs	48.2	50.9	0.9
20. It's nice to plant small seedlings and watch them grow	94.5	5.5	0
21. I can distinguish between bushes and trees	84.5	14.5	1
22. I love to see different types of fish in the aquarium	74.5	23.6	1.9
23. I like to plant flower trees in winter	79.1	20.9	0
24. I like to see the bird's nest in the tree branch	85.5	14.5	0
25. I love to keep indoor plants	66.4	32.7	0.9
26. I like domestic animals or birds	61.8	31.8	6.4
27. We friends discussed various issues related to the environment	13.6	86.4	0

28. I like to travel by water	21.8	55.5	22.7
29. I love to enjoy the winter fog	38.2	52.7	9.1
30. I like to get wet in the rain	38.2	48.2	13.6

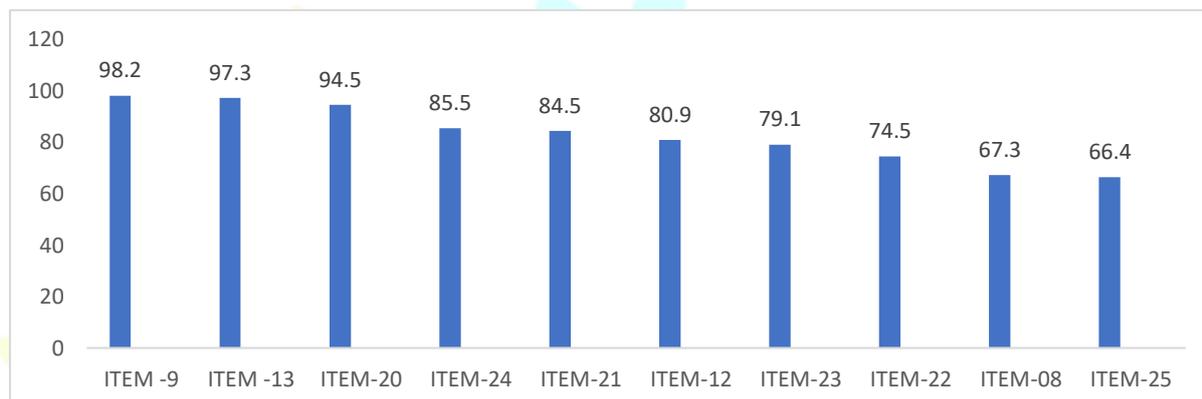


Fig: Percentages of the Highest Ten Items Towards Naturalistic Intelligence.

DISCUSSION: After analyzing the data, the Researcher concluded that Item numbers 1,10,21,2,12,13,20,28,22, and 14 are Highly Positive (more than 65%) in students' preferences towards 'ALL TIME' option. Item numbers 2,5,10,11,18,25,26 and 5 are Moderate (more than 50%) in students' preferences towards 'ALL-TIME' option. Item numbers 16 (35.5%), Item number-28(22.7%), and Item number- 30(13.6%) are Highly Negative 'NEVER' options by the students. According to all these percentages, the Researcher concluded that students of different levels in the Department of Education, University of Kalyani have high naturalistic intelligence. As well as it was concluded that- if those students have a phobia regarding the water they cannot want to swim, traveling on water, and don't wet in rain.

2. **2nd Research Objective**, is to find out the Environmental Awareness among different level students.

Table no – 3

List of questions according to their options

ITEMS	Right Answer	Wrong answer
1. World Environmental Day is celebrated-	99.1	0.9
2. It is known for having water on earth-	90.9	9.1
3.Through which the balance of nature is maintained-	71.8	28.2
4. Which is not a man-made ecosystem-	58.2	41.8
5. Which state in India has the least forest cover-	27.3	72.7
6. The meaning of the word biosphere is-	35.5	64.5
7. Which is not a greenhouse gas-	58.2	41.8
8. The lowest level of the ecological pyramid is-	47.3	52.7
9.Man-made carbon monoxide is the most responsible component of atmospheric pollution-	74.5	25.5
10. What is the full form of UNEP-	93.6	6.4
11.The use of DDT is banned in many countries-	73.6	26.4
12. Polythene bags should not be used because-	87.3	12.7
13. Ultra-violate rays cause disease in humans-	86.4	13.6
14. Agra Taj Mahal was damaged because of that-	79.1	20.9
15. India's first solar city is-	26.4	73.6
16. Problems caused by increased carbon monoxide in the air-	35.5	64.5

17. Which one is not a part of the 3Rs-	51.8	48.2
18. The process of making compost from organic waste is called-	74.5	25.5
19. Organic agriculture is useful for conservation-	49.1	50.9
20. The cause of the hole in the ozone layer-	83.6	16.4
21. The preservation of the Chipko movement is the issue-	92.7	
22. The ozone layer protects the earth-	80.0	20
23. In which layer the cloud and weather have changed-	69.1	30.9
24. Ozone Hole was first observed by a scientist in which country-	65.5	34.5
25. Acid rain is the cause of discharge-	74.5	25.5
26. What causes the Green House effect-	62.7	37.3
27. What is the meaning of Global Warming-	50.0	50
28. Acid Rain is-	80.9	19.1
29. The atmosphere has an Ozone layer-	76.4	23.6
30. Environment is the study of-	78.2	21.8

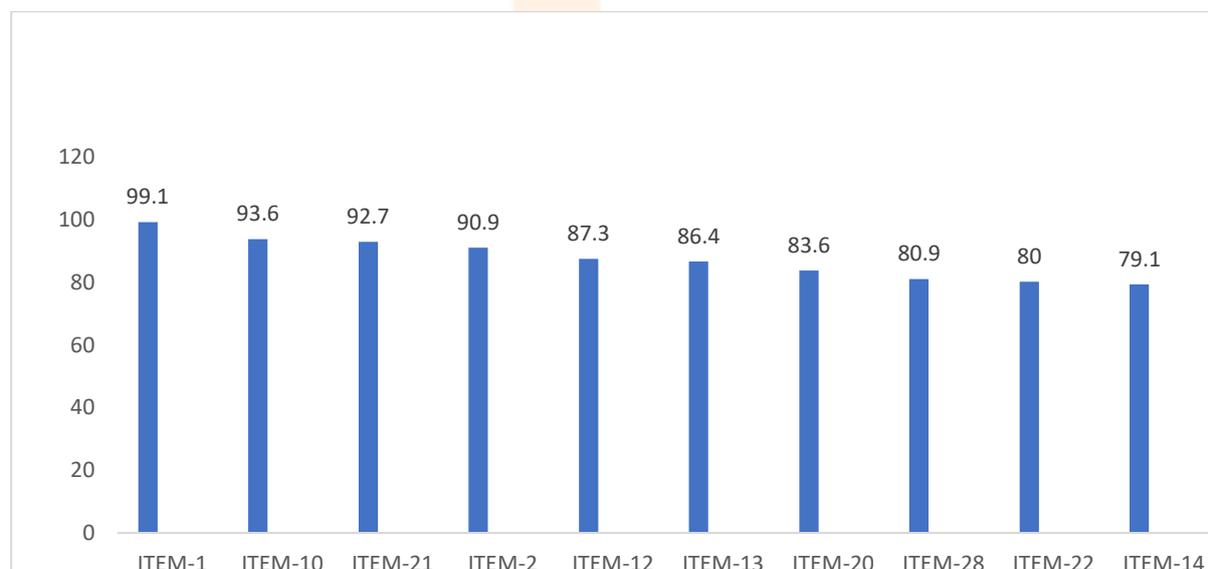


Fig: Percentages of the Highest Ten Items Towards Environmental Awareness

DISCUSSION: After analyzing the data, the Researcher concluded that Item numbers- 1,2,10,21,28,22,20,13, and 12 are Highly Positive (more than 90%) in students' preferences towards 'Yes' or Right option. Item numbers- 5,6,8,15,16, and 19 are Highly Negative (more than 50%) in students' preferences towards 'WRONG' option. According to all these percentages, the Researcher concluded that students of different levels in the Department of Education, University of Kalyani have high Environmental Awareness. After data collection, the Researcher found that - 81.8% Arts students, 17.3% of Science students and 0.9% of Commerce students in various courses. As the students have come from multi-disciplines, environmental awareness is varied among those students.

REFERENCES:

Asio, J. M. R., Francisco, C. D. C., & Nuqui, A. V. (2021). The Relationship between Multiple Intelligences and Participation Rate in Extracurricular Activities of Students from a Catholic Education Institution, *International Journal of Professional Development, Learners and Learning 2021*, 3(1), ep2107, Retrieve from- <https://doi.org/10.30935/ijpdll/1095>.

Astalin, P. K. (2011). A Study of Environmental Awareness Among Higher Secondary Students and Some Educational Factors Affecting It. *International Journal of Multidisciplinary Research*. Vol- 1(7), 90-101. ISSN 2231 5780, Retrieved from- <https://www.scirp.org/%28S%28i43dyn45teexjx455qlt3d2q%29%29/reference/referencespapers.aspx?referenceid=2284814>.

Aydemir, H. & Karali, Y. (2014). Study of Secondary School Students Multiple Intelligence Areas (Malatya Case). *Procedia- Social and Behavioural Sciences*. 152(2014), 167-172. Retrieved from- <https://creativecommons.org/licenses/by-nc-nd/3.0>

Danielraja, R. (2019). A Study of Environmental Awareness of Students at Higher Secondary Level, *International Journal of Education*. Vol- 7(3), 6-10. Retrieved from- <https://doi.org/10.34293/education.v7i3.480>.

Delmoral, M. E. Guzman, A. P. & Fernandez, L. C. (2018). Game Based Learning: Increasing the Logical- Mathematical, Naturalistic and Linguistic learning levels of Primary School Students, *Journal of New Approaches in Educational Research*. 7(1), 31-39. Retrieve from- <https://naerjournal.ua.es/10.7821/naer.2018.1.248>.

Faridy, F. & Rohendi, A. (2019). The Role of Parents in Developing Naturalistic Intelligence in early childhood, *Advances in Social Science, Education and Humanities Research*, volume 454, 121-124. Retrieved from- <http://creativecommons.org/licenses/by-nc/4.0/>.

Hartika, D. Diana, S. & Wulan, R. (2019). Relationship between Naturalist Intelligence with Environmental Attitude, *International Conference on Biology and Applied Science (ICOBAS) AIP Conf. Proc.* 2120, 060017-1–060017-5, Retrieved from- <https://doi.org/10.1063/1.5115717>.

Hasanah, N. Harmawati, D. Riyana, M. & Usman, A. N. (2019). Improve Naturalist Intelligence of early Childhood through Gardening Activities in group children a Merauke state Pembina Kindergarten, *IOP Conference Series: Earth and Environmental Science* 343(2019) 012186. Retrieve from-<https://iopscience.iop.org/article/10.1088/1755-1315/343/1/012186/pdf>.

Hassan, A. Noordin, T. A. & Sulaiman, S. (2010). The status on the level of environmental awareness in the concept of sustainable development amongst secondary school students. *Procedia Social and Behavioural Sciences* 2 (2010) 1276–1280. Retrieved from- <https://www.sciencedirect.com/science/article/pii/S1877042810002272>.

Mumthas, N. S & Umer Farooque, T. K. (2012). Measuring Naturalistic Intelligence – A Contextual and Visual Approach, *National Seminar on Naturalistic Intelligence* (July 12-13, 2012). 1-7. Retrieved from- <https://www.acamedia.edu/9795294>.

Ningrum, Z. B. Budhisoesilo, T. E. & Herdiansyah, H. (2018). Naturalistic Intelligence and Environmental Awareness among Graduate Students, *E3S web of Conferences* 68, 02004(2018) 1st SRICOENV 2018, 1-7. DOI: <https://doi.org/10.1051/e3sconf/20186802004>.

Pouromran, M. S. & Ahmadimoghadam, A. (2021). The study of Green Intelligence on Environmental Experiences and Environmental Citizenship Behaviour, *Central Asian Journal of Environmental Science and Technology Innovation-2* (2021), 79-90. Retrieved from- <https://www.cas.press.com/article-130490.html>.

Sahabuddin, E. S. Makkasau, A. & Nurani, L. C. (2019) studied on The Analysis of Natural Intelligence rates to Environmental Attitudes in Elementary School Students, *Advances in Social Science, Education and Humanities Research*, 481, 199-205. Retrieved from- <https://creativecommons.org/licenses/by-nc/4.0>.

Sahidullah, A. (2020). A Study of Environmental Awareness Among Secondary School Students, *Journal of Interdisciplinary Cycle Research* Volume XII, Issue XII, December/2020, 79-87. ISSN NO: 0022-1945. Retrieved from- <http://www.jicrjournal.com/gallery/9-jicr-december-3584.pdf>.

Sankar, V. & Saravanan, D. P. (2022). A Study of Environmental Awareness and Environmental Ethics Among the B. Ed Trainees in Villupuram District, *Journal of Positive School Psychology*. Vol-6(8), 8930-8932. Retrieved from- <https://www.journalppw.com/index.php/jpsp/article/view>.

Sivamoorthy, Nalini, M. R. & Kumar, C. S. (2013). Environmental Awareness and Practices among College Students. *International Journal of Humanities and Social Science* Invention ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714, Vol- 2(8),11-15. Retrieved from- [https://www.ijhssi.org/papers/v2\(8\)/Version-3/C0283011015.pdf](https://www.ijhssi.org/papers/v2(8)/Version-3/C0283011015.pdf).

Srinivasan, R. & Borkar, U. (2021). A Study of Pro- Environmental Behaviour as a component of Naturalistic Intelligence in In-service school Teachers, *International Journal of Scientific Research*, 10(12), 25-29. ISSN: 2277-8179, Retrieved from- www.worldwidejournals.com.

Suhirman, Prayogi, S., & Asyiari, M. (2021). Problem-Based Learning with Character-Emphasis and Naturalist Intelligence: Examining Students Critical Thinking and Curiosity. *International Journal of Instruction*, 14(2), 217-232. Retrieved from- <https://doi.org/10.29333/iji.2021.14213a>.

Supriadi, M. A. Astra, M. Japar, M. & Fitriyani, F. (2020). Learning Achievement: Outdoor Learning Model and Naturalist Intelligence, *Journal Riset Tindakan Indonesia*, 5(2), 47-53. DOI: <https://doi.org/10.29210/3003655>.

Thakur, G. R. (2014). Nurturing Naturalistic Intelligence through integrated curriculum and Constructivist based approach, *National Level Seminar on Environmental Re-engineering: Series 3- Family framing, organized by Pillai College of Education and Research*, ISBN 978-81-924684-6-4, Retrieved from- <https://www.academia.edu/37260309>.

Tribhuwan Kr. Bhartiya, T. K. (2017). Assessment of Environmental Awareness Among General Public of Assam (India), *International Journal of Applied Environmental Sciences*. ISSN 0973-6077 Vol-12(7), 1359-1365. Retrieved from- https://www.ripublication.com/ijaesv12n7_07.pdf.

Verma, A. Vishal Verma, V. (2022). Environmental Awareness among Students. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)* ISSN: 2321-9653; Vol- 10(4), 945-948. Retrieved from- <https://doi.org/10.22214/ijraset.2022.41306>.

Wirdianti, N. Komala, R. & Miarsyah, M. (2019). Naturalistic Intelligence and Personality: An understanding students responsible Environmental Behavior, *Journal Pendelikon Biology Indonesia*. 5(2), 229-236. DOI: <https://doi.org/10.22219/jpbi.vsi2.7193>.

Xie, J. & Lin, R. (2009). Research on Multiple Intelligence Teaching and Assessment, *Asian Journal of Management and Humanity Sciences*, 4(2-3), 106-124. Retrieved from- <https://www.academia.edu/4907692>.

Zen, Z. & Sihes, A. J. (2017) studied on Improvement of Natural Intelligence for Kindergarten through Discovery Learning, *Advances in Social Science, Education and Humanities Research (ASSEHR)*, 169, 255-259. Retrieved from- <http://creativecommons.org/licenses/by-nc/4.0>.

