The Effect of Environmental Education Learning Outcomes on Adaptation of New Habits of Students In The Covid-19 Pandemic

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ABSTRACT
This study aims to find out the influence of environmental education learning outcomes on the adaptation of new habits of students during the Covid-19 pandemic. Covid-19 transmission still needs attention, especially among the younger generation of students, academic efforts need to be made through environmental education learning, So it is expected to prevent transmission and be able to adapt to new habits. Research uses quantitative approaches, survey methods with regression techniques. The research sample was a student of mathematics education even semester of the academic year 2020/2021 as many as 120 students were randomly selected. Data retrieval techniques use questionnaires to measure environmental education insights, and adaptation of new habits. Data analysis includes descriptive statistics to determine the spread and concentration of data, as well as inferential analysis. The results of the study show that there is a positive influence of environmental education on the adaptation of new habits. Students who understand awareness, knowledge, attitudes, skills, skills, and participation can implement new habit adaptations, both in the village, and in the neighborhood of the house where they live. (9 pt).
Keywords: learning outcomes of environmental education, adaptation of new habits, and the Covid-19 pandemic

1. INTRODUCTION (10 PT)

The Covid-19 pandemic in Indonesia is still ongoing requiring everyone to adapt to new habits in doing activities. This encourages academics to play an active role in reducing the impact of Covid-19 transmission, through learning and in the village. Learning about the importance of maintaining personal and environmental hygiene, as well as implementing new habit adaptations into efforts to avoid exposure to the Covid-19 virus.

The importance of learning environmental education in college, it is expected that students become agents of change both in the campus environment and in the community environment where they live. Students with a good understanding of environmental education and with an understanding of the concept of adaptation of new habits, are expected to enlighten other students, as well as those around them about how to adapt new habits in the Covid-19 pandemic.

PLH is an effort to change the behavior and attitudes carried out by various parties or elements of society that aims to increase knowledge, skills and awareness about environmental values and environmental issues that can ultimately move the community to play an active role in environmental conservation and safety efforts for the benefit of current and future generations.

Learning outcomes are a written statement of what a successful student/student expects to be able to sculpt at the end of a course module/unit course or qualification [1]. Learning outcomes are what a learner expects to know, understand and/or be able to demonstrate upon completion of the learning process [2].

Learning outcomes must be specific and measurable. Learning outcomes are generally written based on Bloom's taxonomy. Bloom's taxonomy explains the learning process and has therefore been shown to be a tool to help develop learning outcomes. The concept in Bloom's taxonomy is very simple.

Learning outcomes focus on students' measurable cognitive development, behavior and attitudes as they interact with learning activities. They are what students expect to demonstrate in terms of knowledge, skills, and attitudes upon completion of the learning experience [3].

Outcome learning and results-based approaches have implications for curriculum design, teaching, learning and assessment, as well as quality assurance. They tend to form an important part of the 21st century approach to higher education and reconsider important questions such as what, who, how, where and when we teach and judge (Adam, 2004). Student-centered learning results in a focus on teaching-learning assessment relationships and fundamental relationships between learning design, delivery and measurement [4].

Bloom stated, "In the learning process always involves three domains, namely: the cognitive domain, affective domain, and psychomotor domains. Furthermore said by Bloom as follows: Cognitive domain consists of six levels, where the levels that describe the steps that are the foundation for entering the next stage. Sixth levels consists of: (1) knowledge; (2) comprehension; (3) application; (4) analysis; (5) synthesis; and (6) evaluation.

In this regard, Bloom then divided knowledge into three major levels, namely: (1) knowledge of special things; (2) knowledge of ways and tools to relate to a particular thing; and (3) knowledge of common and abstract things in a particular field.

However, Krathwohl revised Bloom's taxonomy by stating the following:

The verb aspect of the original Knowledge category was kept as the first of the six major categories,but was renamed Remember. Comprehension was renamed because one criterion forselecting category labels was the use of terms thatteachers use in talking about their work. Because understand is a commonly used term in objectives,its lack of inclusion was a frequent criticism of theoriginal Taxonomy. Indeed, the original group consideredusing it, but dropped the idea after furtherconsideration showed that when teachers say theywant the student to "really" understand, they meananything from Comprehension to Synthesis. But,to the revising authors there seemed to be popularusage in which understand was a widespread synonymfor comprehending. So, Comprehension, thesecond of the original categories, was renamedUnderstand. [5]

Talk about environmental education is also a conceptual issue, but the practice, the experience, of attitudes towards human/environmental attractiveness. Training men to act in the middle where you live, requires the development of critical awareness so that it not only preserves the natural environment but offers this awareness.

During the COVID-19 Pandemic, the implementation of environmental education (PLH) implementation practices in schools cannot be carried out as usual so that the implementation is less effective if done face-to-face in school. This is based on the government's new policy in the education area as a preventive measure from COVID-19 with a new habit pattern of the New Normal era [6].

Covid-19 or Corona Virus Disease 2019 is an outbreak of the disease that spread widely throughout the world. The disease is caused by a viral infection called Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2). This virus attacks the respiratory part for sufferers. Transmission of this disease can occur in a variety of ways, such as through splashing when people cough, sneeze, or talk, through direct contact, and also through objects around us. People who have contracted this virus usually experience several symptoms, such as cough and sore throat, fever with high temperature (>38 ° C), shortness of breath, and flu accompanied by nasal congestion (corona.jakarta.go.id).

A clean and healthy environment will greatly help the people who live in it to feel safe, comfortable, calm and happy. A healthy body can be obtained by consuming clean and healthy and well-nourished foods and drinks. A healthy body will be very difficult to be infected by various dangerous diseases and viruses such as Covid-19 and other diseases, because a healthy body has a strong defense (immunity) and is easy to heal itself. Therefore, it is very important for the community to establish Clean and Healthy Living Behavior (PHBS) in the family environment and the surrounding community environment [7].

Understanding the environment through the results of research by Scott, T. (2003) in the Journal of Social, students have behaviors less concerned about the environment. Behavior less concerned with the environment is due to a lack of knowledge about the impact of behavior on the environment [8]. With environmental education, it is expected that students from an early age have knowledge balanced with the ability to form environmental attitudes, so that students become drivers to overcome environmental problems that have an impact on the survival of each generas [9].

The realization of the implementation of environmental education certainly there are various challenges and obstacles in the field. Generally, the implementation of policies needs adaptation to the facts in the field that undergo changes. The implementation of this policy is related to real circumstances that are constantly changing with uncertain predictions [10].

Environmental education is very important for learners because it will form attitudes and behaviors to be more sensitive and concerned about the environment around them. Environmental education in learners also affects the quality of environmental literacy skills in their families. As a result of the covid-19 pandemic also awakened many families to be more concerned about their environment [11].

Environmental education model is a series of goals, strategies, media and tools used to succeed environmental education in schools on the basis that students are part of the environment [12]. Likewise, students, are a transition from the character of the student. If the student perspective is part of the environment, then students will carry out the process of adapting new habits in campus life and its implementation in the community [13].

The general objectives of environmental education according to UNESCO at the Tbilisi conference (1997) are: (1) to help explain the issue of concern and concern about the interrelationship between economic, social, political, and ecological in the city and in rural areas; (2) to give everyone the opportunity to develop the knowledge, values, attitudes, and commitment and abilities needed to protect and improve the environment, and 3) to create new patterns of behavior in individuals, groups, and society as a whole of the environment [14].

The goals to be achieved include aspects: 1) knowledge; 2) Attitude; 3) care; 4) skills; (5) participation. According to Allyn Walsh (2005)specifically the purposes of environmental education are as follows [15]:

a. Awareness (awareness) is helping students get awareness and sensitive to the environment and its problems as a whole.
b. Knowledge (knowledge) is helping students gain the basics of understanding the function of the environment, human interaction with the environment.
c. Attitudes help students gain a set of values and feelings of responsibility for the natural environment, as well as motivation and commitment to participate in maintaining and developing the environment.
d. Skills that help students gain skills to identify, investigate and contribute to solving and tackling environmental issues and problems.

Participation is helping students gain experience, as well as using their knowledge and thinking skills, to solve and tackle environmental issues and problems. Emotions that arise in a family can affect the pressure that arises in the family [16], and related to family resilience in health and psychological [17]. Family resilience is important during the isolation of COVID-19 in preparing for new habits, because family resilience affects the lives of family members [18] and contributes to economic, nurturing, educational, and socializing aspects. In addition, family resilience can protect at-risk members [19] and serve to prevent the risk of problems in the family [20].

Despite the high dropout rate of vocational education, the industrial sector usually requires graduates who have skills in the workplace [21], which makes vocational education very important. However, the challenge of vocational education today is increasing due to the COVID-19 pandemic. This pandemic requires every country to try to adapt and live together with COVID-19 through the idea of a "New Normal" [22]. It plays an important role in various sectors because pandemics almost completely stop economic activities and change people's social behavior [23]. The education sector is also inseparable from the impact of COVID-19, which requires the education sector to adopt digital technology in the context of New Habit Adaptation [24].

2. METHOD (10 PT)

The research method used is a quantitative descriptive method with correlational analysis techniques. Research data analysis includes descriptive data analysis, and inference, as well as qualitative analysis of environmental education knowledge in college. Descriptive analysis techniques include the concentration and dissemination of data. Descriptive statistical calculations in this study will be completed using the help of IBM SPSS Statictics 22 computer program. Data requirements analysis techniques include normality tests, homogeneity, multicollinearity, and regression linearity tests.

Hypothesis testing uses techniques of partial correlation and double correlation, as well as simple linear regression and double linear regression. The hypothesis to be tested is hypothesis zero: Ho: There is no effect of Environmental Education Learning Outcomes on Adaptation of New Habits, while the alternative hypothesis, H1: There is an influence of Environmental Education on Adaptation of New Habits.

3. RESULTS AND DISCUSSION (10 PT)

The second test of analytical requirements is a linearity test of regression of environmental educational relationships with adaptation of new habits. The results of the regression linearity test are as follows:

Table 1 Linearity test of regression of new habit adaptation to environmental education learning outcomes

			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	690.950	24	28.790	3.955	.000
		Linearity	380.886	1	380.886	52.323	.000
		Deviation from Linearity	310.064	23	13.481	1.852	.049

	Within Groups	254.783	35	7.280
	Total	945.733	119	

In the linearity test of a simple linear regression equation, the calculation results show the value of Fhitung = 1.85 while at the level of α = 0.05 obtained the value of Ftabel = 2.14. Since Fhitung = 1.85 < 2.14 Ftabel 0.01;23;59, the simple linear regression equation model is acceptable.

The effect of environmental education learning outcomes on the adaptation of new habits in the context of online learning has a correlation coefficient of 0.635, as seen in the results of calculations:

Table 2 Coefficient correlation of learning outcomes Environmental education and adaptation of new habits

		X	Y
X	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
	N	120	60
Y	Pearson Correlation	.635**	1
	Sig. (2-tailed)	.000	
	N	60	60

Table 3 Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635[a]	.403	.392	3.121

a. Predictors: (Constant), X

b. Dependent Variable: Y

Based on the table above it is seen that the correlation coefficient of the influence of environmental education variables on the adaptation of new habits is 0.635. From the calculations it was obtained that the coefficient of environmental education to the adaptation of new habits correlation is significant in, in other words there is a significant relationship of environmental education learning outcomes to the adaptation of new habits.

In the Summary Model table above, it can also be known that the coefficient of determination is 0.403 with a percentage of 40.3% showing that the contribution of environmental education to the adaptation of new habits, the remaining 59.7% due to the influence of other factors that were not studied in this study.

The calculation of the regression coefficient of the relationship between the learning outcomes of environmental education and the adaptation of new habits is as follows:

Table 4 Coefficient of Simple Regression Equations Influence Of Variables of environmental education learning outcomes on adaptation of new habits

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.475	5.333		.839	.405
	X	.308	.049	.635	6.254	.000

a. Dependent Variable: Y

The result of the calculation of linearity regression relationship between environmental education variables, to the adaptation of new habits obtained regression $\hat{Y} = 4{,}475 + 0{,}308X$. The equation shows a positive relationship of environmental education learning outcomes with the adaptation of new habits. The variance analysis (Anava) test of the significance of the regression coefficient is presented in the following table:

Table 5 Table Anava Test Signification coefficient regression of environmental education outcomes to adaptation of new habits

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	380.886	1	380.886	39.110	.000[b]
	Residual	564.848	118	9.739		
	Total	945.733	119			

a. Dependent Variable: Y

b. Predictors: (Constant), X

Based on the results of statistical hypothesis tests show that Environmental Education in Higher Education has a positive influence on the establishment or implementation of adaptation of new habits of students in the covid 19 pandemic. The pandemic situation is inseparable from the environment [25]. Hillen (2014), stated that the general goal (vision) of environmental education is for students to have knowledge, skills, attitudes, motivations and a sense of commitment to work individually and collectively towards solving and preventing the emergence of environmental problems [26].

From the general purpose according to Joyce, Bruce., Marsha Weil dan Emily Calhoun (2011) that environmental education is contained elements of special purpose (mission) which includes the formation of elements: knowledge, awareness, attitude skills, the ability to evaluate and participate (behavior) of learners in conjunction with the preservation and improvement of the quality of the environment, which can be further elaborated as follows: (1) Develop awareness of the need for individuals to meet the needs of their environment, (2) Develop awareness of the environment and its present and future problems, (3) Gain knowledge and understanding of human ecological relationships with its socio-cultural and biophysical environment, (4) Have the necessary capabilities for the judicious use of natural resources, protect and develop the environment towards solving the problem, (5) Develop attitudes, values and beliefs essential to improving the quality and conservation of the environment, (6) Active participation, both individually and jointly in activities related to environmental improvement [27].

Environmental education for awareness indicators averages 4.45 out of a total score of 5, knowledge averages a score of 4.44 from a score of 5, attitudes average a score of 4.56 from a score of 5, skills average a score of 4.53 from a score of 5, participation averages a score of 4.37 from a score of 5. Providing awareness to students about the environment by instilling the perspective that students are part of the environment, an educational model is needed to carry out environmental education in schools, especially in the new normal era. Environmental education model is a series of goals, strategies, media and tools used to succeed environmental education in schools on the basis that students are part of the environment [28].

From the aspect of attitudes (attitudes) has an influence on the implementation of new habit adaptation by creating a friendly environment. According to Yang, Y., Li, W., Zhang, Q., Zhang, L., Cheung, T., & Xiang, Y. T. (2020) that teaching Environmental Education (PLH) to students or in a non-formal way is through habituation of student behavior by creating environmentally friendly school conditions [29]. From the aspect of knowledge, research studies show that the application of environmental education students can have behavior will care about the environment from aspects of knowledge, attitudes. and the skills to be able to respond to caring for and preserving the environment around [30].

The results of the Walsh [31] study stated that "supporting factors such as the performance of teachers, principals and gardeners in guiding students and the existence of learning media that allows students to understand the value of environmental care. Inhibiting factors such as lack of learning time and family role in instilling environmental caring value". A good environmental education model, students being part of the environment will foster awareness, knowledge, attitudes, and skills.

4. CONCLUSION (10 PT)

Based on the results of research and discussion, it can be concluded that environmental education has an influence on the adaptation of new habits of students. This is based on the results of the hypothesis test $F_{count} > F_{table}$ which is at the level of significance α 0.05.

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REFERENCES (10 PT)

[1] Adam, S. Using learning outcomes: A consideration of the nature, role, application and implications for European education of employing 'learning outcomes' at the local, national and international levels. United Kingdom Bologna Seminar, July 1-2, 2004, Heriot-Watt University (Edinburgh Conference Centre), Edinburgh. Scotland.
[2] Ashiem, C., Gowan, A., & Reichgelt, H. Establishing an assessment process for a computing program. Information Systems Education Journal, 2007, 5(1), 23-25.
[3] Bailie, F. Marion, B., & Whitfield, D. How rubrics that measure outcomes can complete the assessment loop. Journal of Computing Sciences in Colleges, 2010, 25(6), 15-28
[4] Biggs, J., & Tang, C. Teaching for quality learning at University Maidenhead, UK: Open University Press/Mc Graw-Hill Education, 2007.
[5] Earl, L. Assessment as learning: Using classroom assessment to maximize student learning. Thousand Oaks, CA: Corwin Press, 2003.
[6] Hidayah, Vina Nur, dan Baedowi, Fella Sufah..Peran PLH (Pendidikan Lingkungan Hidup) SMAN 3 Klaten Era New Normal: Bertanam Dari Sekolah Menuju Rumah. *Journal of Environmental Education and SustainableDevelopment.* 2020,21(02),1-12**.**
[7]Reichgelt, H., & Yaverbaum, G. Designing an information technology curriculum: The Georgian Southern experience. Journal of Information Technology Education, 2002, 1(4), 213-221.
[8] Scott, T. Bloom's taxonomy applied to testing in computer science classes. The Journal of Computing in Small Colleges, 2003, 19(1), 267-274.
[9] Sya'ban, Moh. B Ali. **Tinjauan Mata Pelajaran IPS SMP Pada Penerapan Pendidikan Lingkungan Hidup Untuk Peduli Akan Tanggung Jawab Lingkungan.** ***Jurnal Geografi, Edukasi dan Lingkungan (JGEL)*****, 2018, 2(1), 32-44,** http://journal.uhamka.ac.id/index.php/jgel**.**
[10] Warren, I. Teaching patterns and software design. Australasian Computing Education Conference, Newcastle, Australia, 2005.
[11] Biney, P., Kommalapati, R., Gyamerah, M., Annamalai, A., Obiomon, P., Ketkar, M., Sarker, N., Iyengar, R., & Peng. X. Development of performance criteria for assessing program outcomes in engineering, engineering technology and computer science programs. Proceedings of the American Society of Engineering Education Annual Conference & Exposition, Pittsburgh, PA, 2021.
[12] Ferdyan, Rhavy., Vauzia., Zulyusri., Santosa, Tomi Apra., Razak, Abdul. Model Pendidikan Lingkungan Hidup: Kegiatan Pembelajaran pada Siswa Sebagai Bagian dari Lingkungan di Era New Normal. Natural Science: Jurnal Penelitian Bidang IPA dan Pendidikan IPA, 2021, 7(1), 51-56.
[13] Whipple, Chris, *et.al., Models in Environmental Regulatory Decision Making.* Washington D.C.: The National Academies Press, 2007.
[14] Vasser, Nichole, Instructional Design Processes and Traditional Colleges. *Online Journal of Distance Learning Administration, Volume 13 (4), Winter 2010, h.3*
[15] Walsh, Allyn. *The Tutor in Problem Based Learning: A Novice's Guide*. Hamilton: Program for Faculty Development, McMaster University, Faculty of Health Sciences, 2005
[16] Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. American Psychologist, 55(6), 647–654. https://doi.org/10.1037/0003-066X.55.6.647
[17] Affleck, G., & Tennen, H. (2006). Construing Benefits from Adversity: Adaptational Significance and Dispositional Underpinnings. Journal of Personality, 64(4), 899–922. https://doi.org/10.1111/j.1467- 6494.1996.tb00948.x
[18] Carr, K. (2015). Communication and Family Resilience. In The International Encyclopedia of Interpersonal Communication, 1–9. https://doi.org/10.1002/9781118540190.wbeic1 98
[19] Patterson, J. M. (2002). Understanding family resilience. Journal of Clinical Psychology, Vol. 58, pp. 233–246. https://doi.org/10.1002/jclp.10019
[20] Oosterhoff, B., Palmer, C. A., Wilson, J., & Shook, N. (2020). Adolescents' Motivations to Engage in Social Distancing during the COVID-19 Pandemic: Associations with Mental and Social Health. Journal of Adolescent Health. https://doi.org/10.1016/j.jadohealth.2020.05.004
[21] Ho, C. S., Chee, C. Y., & Ho, R. C. (2020). Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. Annals of the Academy of Medicine, Singapore, 49(1), 1–3.
[22] Setiati, S., & Azwar, M. K. (2020). COVID-19 and Indonesia. Acta Medica Indonesiana, 52(1), 84– 89.
[23] Liu, J. J., Bao, Y., Huang, X., Shi, J., & Lu, L. (2020). Mental health considerations for children quarantined because of COVID-19. The Lancet Child and Adolescent Health, Vol. 4, pp. 347– 349. https://doi.org/10.1016/S2352- 4642(20)30096-1
[24] Tanoue, Y., Nomura, S., Yoneoka, D., Kawashima, T., Eguchi, A., Shi, S., Harado, N., & Miyata, H. (2020). Mental health of family, friends, and co-workers of COVID-19 patients in Japan. Psychiatry Research, 113067. https://doi.org/10.1016/j.psychres.2020.113067
[25] Swan, James dan Stapp, *Environment Education*. New York: John Woiley dan Sons, 2000.
[26] Hillen, Stefanie A. dan Molodee Landis. Two perspectives on E-Learning Design: A Synopsis of a U.S and European. *Creative Commons Atribution 4.0 International License, Vol. 15(4), Athabasca University 2014, h. 205.*
[27] Joyce, Bruce., Marsha Weil dan Emily Calhoun. *Model of Teaching*. Boston: Allyn and Bacon, 2011.
[28] Gall, Meredith D., Joice P. Gall, dan Walter R. Borg, *Educational Research An Introduction*. 8th ed. Boston: Allyn and Bacon, 2007.
[29] Yang, Y., Li, W., Zhang, Q., Zhang, L., Cheung, T., & Xiang, Y. T. (2020). Mental health services for older adults in China during the COVID-19 outbreak. The Lancet Psychiatry, Vol. 7, p. e19. https://doi.org/10.1016/S2215-0366(20)30079-1
[30] Arends, R.I. *Learning to Teach*. New York: McGraw-Hill Book Company, 2004.
[31] Walsh, F. (2016). Family resilience: a developmental systems framework. European Journal of Developmental Psychology. https://doi.org/10.1080/17405629.2016.1154035

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Please attach clear photo (3x4 cm) and vita. Example of biographies of authors:

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