Correlation Between Local Wisdom Knowledge with Ecoliteracy and Green Behavior of Students of Adiwiyata School, Bandung, West Java

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Abstract

Local wisdom is a factor in loving the environment to encourage students to be aware of the surrounding natural resources. Awareness to love the environment must be instilled in students, one of them through ecoliteracy. Through local wisdom knowledge and ecoliteracy, students are expected to have a Green Behavior. This study aims to analyze the correlation between local wisdom knowledge with ecoliteracy and Green Behavior. This study applies quantitative descriptive methods. Respondents consisted of 203 twelve grade science students from SMA 24 Negeri Ujung Berung in Bandung taken using simple random sampling technique. The research hypothesis was tested using correlation formula. The results showed that (1) there was a positive correlation with moderate level of correlation between local wisdom knowledge and Green Behavior, (2) there was a positive correlation with moderate level of correlation between ecoliteracy and Green Behavior, (3) there was a positive correlation with moderate level of correlation simultaneously between local wisdom knowledge with ecoliteracy and Green Behavior. This research implies that increasing knowledge of local wisdom and ecoliteracy is needed to realize green behavior.

Keywords: Green Behavior; Local Wisdom; Ecoliteracy; Student

Introduction

The environment is considered as an access for humans to achieve a welfare. The environment is not only considered as a living place for living things in a place but a productivity of the universe that life between nature and the behavior of living things is intertwined. Issues related to environmental damage in the future are caused by a lack of environmental knowledge in understanding the importance of preserving the environment which is supported by environmental awareness (Capra et al., 2013). The manifestation of the behavior of living things in protecting the universe is called green behavior. Goleman & Barlow (2012) explained that green behavior is human behavior in protecting and maintaining the environment around them. Based on the results of previous studies, *adiwiyata* schools do not necessarily embody a good understanding of the environment, attitudes and actions that reflect Green Behavior (Desfandi, 2015). When students have understood the importance of preserving and caring for the earth as a natural place to live for living things, these students are certain to have Green Behavior (Syaodih &

Handayani, 2015). Green Behavior, or behavior to protect and preserve the environment, is implemented because of awareness and a sense of responsibility for the preservation of the universe. If Green Behavior continues to be applied, it will prevent future environmental damage (Hosseinpour, 2014). Green Behavior can develop into a culture of love for the universe. It will affect the pattern of human life through local wisdom knowledge that demands to live in harmony with nature which will be reflected by the lifestyle patterns of someone in loving the universe (Putri & Nikawanti, 2017).

Green behavior arises because of the knowledge to love the universe. One's knowledge to love the universe must be instilled early on, one of the children through knowledge of local wisdom. Knowledge of local wisdom is positive human knowledge in correlating with nature and the surrounding environment that can be sourced from religious values, customs, advice of ancestors or local culture. It is built naturally in a community to adapt to the environment. Local wisdom knowledge becomes the foundation of Green Behavior with culture in an area and survives for generations (Desfandi, 2015; Alqomayi, 2012). Local wisdom is a view of life, knowledge and life strategies in the form of activities of local communities in meeting their needs (Alfian, 2013). Local people, who build and organize their lives with an awareness of the importance of the environment, will have environmentally friendly behavior that can be measured by ecoliteracy (Keraf, 2014).

Ecoliteracy is human awareness in protecting and preserving nature. Such awareness can be possessed by individuals through a lifelong learning process which in turn will shape knowledge, attitudes, character, and skills in processing and preserving nature. This is in line with Capra's (2013) explanation that ecoliteracy is the moral awareness of the human community to respect the biotic community. The position of humans in ecoliteracy is awareness of critical issues and providing effective and wise solutions that correlate with the environment in the environment where humans live and the environment globally.

Ecoliteracy must be lived and practiced as a pattern of life or culture together with the whole community which is sourced from natural wisdom which is the essence of ecoliteracy or environmental awareness (Keraf, 2014). Students who have reached the level of ecoliteracy are those who are very aware of the importance of the environment, the importance of protecting and caring for the earth, ecosystems, nature as a place to live and the development of life (Rusmana & Akbar, 2017). Putri & Nikawanti (2017) explained that ecoliteracy illustrates awareness about the importance of humans in protecting the environment. When someone has achieved ecoliteracy of the importance of preserving and caring for the earth as a natural place for living things, that person is certain to have Green Behavior. Based on the description above, this study will be conducted to determine the correlation between local wisdom knowledge with ecoliteracy and green behavior of students of Adiwiyata Bandung School, West Java.

Methodology

This study applies survey method with correlational technique. The focus of the study was twelve grade science students of SMA Negeri 24 Ujung Berung Bandung. The research samples consist of 203 students. The research instrument is a measurement instrument in the form of a questionnaire.

Research data collection was carried out through questionnaires and surveys. The questionnaire was filled in once to obtain data on local wisdom knowledge and ecoliteracy. The survey was conducted to obtain green behavior data. The data obtained will be through prerequisite analysis, which is a test for normality and homogeneity. Research analysis was carried out through quantitative correlational method with regression correlation analysis technique.

Results and Discussion

Based on the results of the study, the score of students' local knowledge of knowledge has high criteria of 89-100 with a percentage of 0.98% on conceptual indicators. Medium criteria 42-74 are found in procedural indicators with an average score reaching 27.6% and low criteria 26-41 are found in factual indicators with an average score of 71.42%. High and low scores of student green behavior is influenced by many things. According to Nuraini's theory (2015), local wisdom knowledge needs to be kept and maintained or preserved to create life balance. In this case the community has their own way of preserving the surrounding environment. Indrawardana (2012) mentioned that the alignment of local wisdom knowledge directly or indirectly builds green behavior character that is in accordance with the surrounding living environment.

Based on the results of research on ecoliteracy scores, students who have an ecoliteracy score of 43-68 with medium criteria 96.5% are on indicators understanding the basic principles of ecology, while low criteria are found on indicators of caring for living things and the environment with an average score of 30-42 and percentage of 3%. One of the factors that influence ecoliteracy on green behavior is a person's lifestyle. According to the theory of Putri & Nikawanti (2017), ecoliteracy can lead humans to live in harmony with nature. That is reflected in the pattern of one's style in loving the universe so that the lifestyle can develop into a culture of love for the universe that will affect the lifestyle of the world community. Azwar (2007) stated that human behavior is influenced by environmental factors. In accordance with the results of the study, Modi & Patel (2013) argued that ecoliteracy is a determinant of green behavior.

Research data from the student green behavior variable obtained a score of 48-71 with moderate criteria of 71.41%.

Correlation between Local Wisdom Knowledge (X1) and Green Behavior (Y)

Significance and linearity test results with the regression equation $\hat{Y} = 2.664 + 0.619\ X_1$ indicate that the equation is significant and linear. The regression equation explains that if local wisdom knowledge increases by one point, Green Behavior also increases by 0.619 points at a constant of 2.664. The description of Green Behavior (Y) correlation and local wisdom knowledge (X_1) is presented in Figure 1.
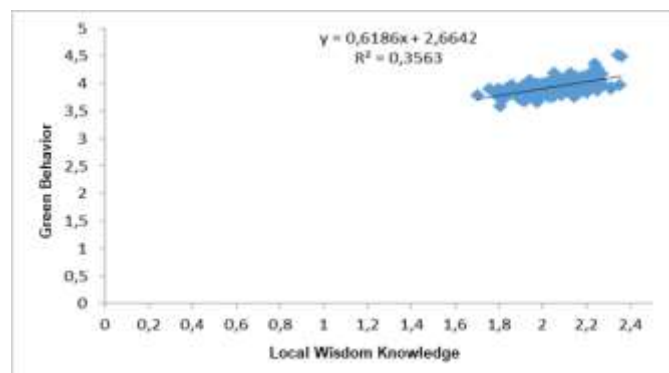

Figure 1. Correlation Graph between Green Behavior (Y) and Local Wisdom Knowledge (X_1)

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The significance test of the correlation coefficient uses t-test and obtains t_{count} of 10.548 and t_{table} $_{(0.01; 89)}$ of 1.972. Therefore, $t_{count} > t_{table}$, the correlation coefficient rx_{1y} is significant. Thus, there is a positive correlation between local wisdom knowledge and green behavior which means that the more local wisdom knowledge, the stronger the green behavior. In accordance with research conducted by Ratih & Budiman (2014), local wisdom knowledge learning materials that include green behavior can lead students to think critically so that they are able to understand and know the inheritance of local wisdom values.

Correlation between Ecoliteracy (X2) and Green Behavior (Y)

Significance and linearity test results with the regression equation $\hat{Y} = 2.509 + 0.570 X_2$ indicate that the equation is significant and linear. The regression equation explains that if ecoliteracy increases by one point, Green Behavior also increases by 0.570 points at a constant of 2.509. The description of Green Behavior (Y) correlation and ecoliteracy (X_2) is presented in Figure 2.
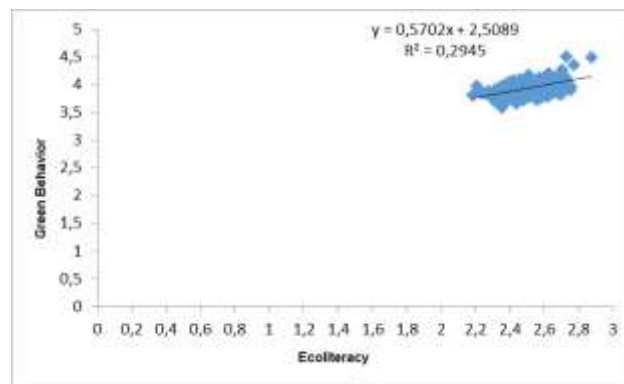

Figure 2. Correlation Graph between Green Behavior (Y) and Ecoliteracy (X_2)

The significance test of the correlation coefficient uses t-test and obtains t_{count} of 9.925 dan t_{table} of 1.972. Therefore, $t_{count} > t_{table}$, the correlation coefficient rx_{1y} is significant. Thus, there is a positive correlation between ecoliteracy and green behavior which means that the more ecoliteracy, the stronger the green behavior. In accordance with research conducted by Modi and Patel (2013), that ecoliteracy is a determinant of green behavior. When a person has become very aware of the importance of the environment and the importance of preserving and caring for the earth as a natural habitat for living things, that person is at an ecoliteracy level.

Correlation between Local Wisdom Knowledge (X1) and Ecoliteracy (X2) and Green Behavior (Y)

The correlation test and the coefficient of determination test are performed on data related to green behavior (Y) on local wisdom knowledge and ecoliteracy. Based on these data, the green behavior (Y) correlation coefficient of local wisdom knowledge and ecoliteracy is rx_{1x2y} of 0.620 with $F_{count} = 61.349 > F_{table} = 3.887$. Thus, the level or strength of the correlation between local wisdom knowledge with ecoliteracy and green behavior is very significant in significance test of $\alpha = 0.01$. The findings show that there is a positive correlation between local wisdom knowledge with ecoliteracy and green behavior.

The coefficient of determination $(rx_{1x2y})^2 = (0.620)^2$ is 0.380. It means that local wisdom knowledge and ecoliteracy gives an effect of 38% on Green Behavior through the regression model $\hat{Y} = 2.421 + 0.619\ X_1 + 0.570\ X_2$ and not through other regression models. In line with the principles put forward by the Center for Ecoliteracy (2015), local wisdom knowledge and ecoliteracy will produce green behavior. In this case, when the dynamism between the two has been achieved, it will produce a human lifestyle in the 21st century that is a healthy, prosperous human being, and able to live in maintaining the ecological chain in balance.

Conclusion

Based on the results of research analysis that has been carried out, it is concluded that there is a positive correlation between local wisdom knowledge and student Green Behavior, there is a positive correlation between ecoliteracy and student Green Behavior, there is a positive correlation simultaneously between local wisdom knowledge with ecoliteracy and student green behavior.

References

Alfian, M. (2013). *Potensi Kearifan Lokal dalam Pembentukan Jatidiri Dan Karakter Bangsa.* Yogyakarta: Prosiding The 5 thn ICSSIS, Ethnicity and. Globalization.

Alqomayi, S. (2012). Kearifan Lokal Berbasis Islam Dalam Pelestarian Lingkungan Hidup. *IBDA: Jurnal Kajian Islam dan Budaya*, *10*(1): 15-29.

Azwar, S. (2007). Sikap Manusia Teori dan Pengukurannya. Yogyakarta: Pustaka Pelajar.

Capra, J. A., Erwin, G. D., McKinsey, G., Rubenstein, J. L., & Pollard, K. S. (2013). Many human accelerated regions are developmental enhancers. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *368*(1632): 20130025.

Center for Ecoliteracy. (2015). *Food Systems*, Climate Change, and Ecological Education. Available from: https://www.ecoliteracy.org/article/food-systems-climate-change-and-ecological-education.

Desfandi, M. (2015). Mewujudkan masyarakat berkarakter peduli lingkungan melalui program adiwiyata. *Sosio-Didaktika: Social Science Education Journal*, *2*(1): 31-37.

Goleman, D., Bennett, L., & Barlow, Z. (2012). *Ecoliterate: How educators are cultivating emotional, social, and ecological intelligence*. John Wiley & Sons.

Hosseinpour, M., Mohamed, Z., Rezai, G., Shamsudin, M. N., & Abdlatif, I. (2014). *Impact of Go Green Campaign on Green Behavior Intention Among Consumers in Klang Valley, Malaysia*. Doctoral dissertation, Universiti Putra Malaysia.

Indrawardana, I. (2012). Kearifan lokal adat masyarakat Sunda dalam hubungan dengan lingkungan alam. *Komunitas: International Journal of Indonesian Society and Culture*, *4*(1).

Keraf, A. S. (2014). *Filsafat Lingkungan Hidup, Alam Sebagai Sebuah Sistem Kehidupan*. Yogyakarta: Kanisius.

Modi, A. G., & Patel, J. D. (2013). Classifying Consumers based upon their pro-environmental behaviour: an empirical investigation. *Asian academy of management journal*, *18*(2): 85.

Nuraini, H. T. (2015). *Kearifan Lokal Masyarakat Suku Dayak Iban Dalam Pengelolaan Sumber Daya Hutan Di Dusun Sungai Utik, Kecamatan Embaloh Hulu, Kabupaten Kapuas Hulu, Kalimantan Barat*. Doctoral dissertation, Universitas Gadjah Mada.

Putri, S. U., & Nikawanti, G. (2017). Pengenalan Green Behaviour Melalui Ecoliteracy Pada Anak Usia Dini. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, *8*(2).

Rusmana, N. E., & Akbar, A. (2017). Pembelajaran Ekoliterasi Berbasis Proyek Di Sekolah Dasar. *Jurnal Edukasi Sebelas April*, *1*(1): 1-12.

Syaodih, E., & Handayani, H. (2015). Menumbuhkan Green Behavior Pada Anak Usia Dinimelalui Pembelajaran Proyek. *Proceeding PGSD*, *501*.

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