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Environmental care behavior through e-jas model with science edutainment approach

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Abstract. The purpose of this study was to find out (1) The effectiveness of the E-JAS model with the science edutainment approach to improving environmental care behavior (2) Effectiveness of the E-JAS model with the science edutainment approach to increasing responsibility behavior (3) Citizen response to the E-model JAS with a science edutainment approach. The method used in this study is the pre-experimental design method. Sampling in this study using purposive sampling. The results showed that the E-JAS model with a science edutainment approach could improve environmental care behavior by 73% with a high category, can increase responsibility behavior by 65% with the medium category, and citizen responses to the E-JAS model with the science edutainment approach in the category well.

1. Introduction

The development of a nation's character is one of the main concerns of the government. Character building must unite and become a 5 integrated part of the learning process that does not stand alone separately. This is as mandated by Law No. 20 of 2003 [1] concerning the National Education System in Article 3 which states that national education functions to develop capabilities and form dignified national character and civilization to educate the life of the nation. Character education must be fully developed in the frame of the National Education System to achieve the objectives of National Education.

The character will be formed through behavior that is done repeatedly. According to James Stenson in Lickona [2] states that children develop character through what they see, what they hear, and what they repeatedly do. The environment that supports children with good behavior continuously will shape good character in children. Good behavior needs to be planted in the young generation of the nation. One of the behaviors that need to be developed for the young generation of the nation is environmentally responsible behavior and responsibility. This is based on the many problems of environmental damage that occur in the environment. Environmental problems are not a new problem but are the same as the age of this earth. Aziz [3] argues that one of the things that cause environmental damage is that the character of the environment and the responsibility are not embedded well. Experts have many differences of opinion regarding the causes of environmental damage, but it cannot be denied that humans are one of the causes of environmental damage.



Based on preliminary observations in the city of Baubau, it was found on the edge of a small river that a lot of garbage was piled up on the banks of the river. The garbage comes from school waste disposal and the surrounding community who are dumped directly on the banks of the river. Careless disposal of rubbish on the banks of the river causes the river flow to be not smooth and allows water to overflow during the rainy season because the river flow is blocked by garbage. A large amount of garbage thrown around the river causes the river to no longer be clear, so it looks dirty. Also, the caring behavior of the environment and the responsibilities of the people of Baubau City are still not visible. Many residents throw away used snacks and drinks on the river directly. This shows that the awareness to dispose of garbage in its place and the awareness of caring for and maintaining the school environment has not been well embedded in the residents.

6 According to Lickona, the character is related to moral concepts (moral knocking), moral attitude (moral felling), and moral behavior (moral behavior). Based on these three components, it can be stated that good character is supported by the knowledge of goodness, the desire to do good, and doing good deeds. The chart below is a chart of the three related frameworks. Teachers as the main role holders in the education process in schools that should be able to emphasize character education to promote positive values to the younger generation. The educational process is said to be successful not only seen from the success of cognitive aspects. The main goal in education is to help citizens become smart and to help citizens become good [2]. A teacher is not only trying to help citizens become cognitively smart but must be able to instill good behavior that will become a character of the people. Environmentally responsible behavior and responsibility that is carried out continuously will be able to shape the character of environmental care and responsibility in the community.

Planting behaviors that care about the environment and responsibilities can be accustomed to learning activities. Design in learning activities designed by teachers should be guided by students centered learning. One design of learning that can provide direct experience and can develop the potential of citizens as well as effective in its application is the Experiential Exploration Natural Exploration (E-JAS), the learning model. The E-JAS learning model is a learning model that provides experience directly to citizens and can develop the abilities and potential of citizens through stages of exploration, interaction, communication and reflection [4].

Experiential Natural Exploration (E-JAS) learning model invites people to learn directly in the surrounding environment. The use of the environment as a learning resource can support learning activities optimally. Ministry of Education and Culture [5] states that the environment provides a variety of things that citizens can learn directly and are real so they can broaden the horizons of citizens. Learning with the Experiential Natural Exploration (E-JAS) model makes citizens more active in learning through exploration activities. The learning process, in addition to inviting active citizens, is also expected to be interesting and fun and able to invite people to interact directly with the environment. This refers to the nature of the child, one of which is playing. The science edutainment approach introduces entertainment and fun learning but does not deviate from the learning objectives. According to Taufiq [6] learning using the science edutainment approach contains learning media that are packaged in an interesting and interesting way using formulas and practices to find concepts. This learning process is expected to foster the attraction and enthusiasm of citizens towards learning.

Learning with the E-JAS model with the approach of science edutainment invites people to learn directly in the surrounding environment in a pleasant atmosphere. The application of the Experiential Natural Exploration (E-JAS) model with the science edutainment approach is expected to improve environmental care behavior and responsibility.

The objectives of this study were: (1) to determine the effectiveness of the Experiential Natural Surrounding (E-JAS) model with a science edutainment approach to improving the environmental care behavior of Baubau City residents, (2) to determine the effectiveness of the E-JAS model with an approach science edutainment towards increasing the responsibility behavior of Baubau City residents, and (3) knowing the response of the citizens of Baubau City to the Experiential Natural Exploration (E-JAS) model with a science edutainment approach.

9 Methods

The population used in this study were all residents in the City of Baubau. The sample used was the residents of Baubau City. Sampling in this study using purposive sampling technique. Residents of Baubau City were chosen as the study sample because residents have characteristics tend to like learning with elements of the game but have been able to be invited to study outdoors. According to Sugiyono [7] that: "purposive sampling is a sampling technique of data sources with certain considerations." The reason for using Purposive Sampling techniques is because not all samples have criteria that are by the phenomenon under study. Therefore, the authors chose the Purposive Sampling technique that sets certain considerations or criteria that must be met by the samples used in this study. Also, residents have been able to be invited to carry out activities to prevent and repair environmental damage.

The variable of this study is the Experiential Natural Surrounding (E-JAS) model with the thematic-edutainment approach as an independent variable and environmental caring behavior and citizen responsibility as the dependent variable. The design of this study was one group pretest-posttest design. Ruseffendi [8] describes the design as follows.

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O X O

Where:

O: Pretest and posttest of caring behavior and responsibility.

X: Learning using the Experiential Natural Exploration (E-JAS) model with a science edutainment approach.

The method of collecting data using the non-test method is through questionnaires and observations. The instruments used in the data collection were observation sheets for environmentally conscious behavior and community responsibilities, as well as questionnaires on people's responses to learning activities. The method of data analysis in this study was carried out quantitatively and qualitatively descriptive.

3. Results and discussion

3.1. Environmental care behavior and citizen responsibility

One of the characters developed is caring for the environment. This study is focused on (1) the concept of character education that cares about the environment and (2) the implementation of character-care education in the environment at school. The results of this study include: (1) character-caring environment education is an embodiment of human attitudes towards the environment in the form of actions in daily life which is an effort to prevent damage to the surrounding natural environment, and strive to repair all-natural damage that has occurred, (2) environmental care character education can be implemented in schools through integration in subjects and through self-development programs. The score of environmental care behavior and community responsibility before and after the implementation of the E-JAS model with the science edutainment approach, as shown in table 1 below.

Table 1. Recapitulation of environmental care behavior scores and responsibilities before and after

Component	Environmental care score		Responsibility score	
	Before	After	Before	After
Average	2.71	6.57	6	9.86
Highest	4	7	7	11
Lowest	2	6	5	8

Obtaining a score of environmental care behavior and community responsibility after learning is generally higher than the score before learning. This can be seen in the average score of environmental care behavior and the responsibilities of the community after learning reached 6.57 and 9.86 while before learning only reached 2.71 and 6. The results of the calculation of increasing environmental care behavior and the responsibilities of citizens using normalized tests gain can be seen in table 2. below.

Table 2. Results of increased environmental care behavior and responsibility

Criteria	Percentage	
	Environmental care	Environmental care
Low	0.00%	14.29%
Moderate	42.86%	28.57%
High	57.14%	57.14%

Based on table 2, it can be seen that the results of increasing environmental care behavior and the responsibilities of the average citizen are included in the high criteria of 57.14%. Based on the classical normalized gain test, the normalized gain value (g) is 73% or 0.73 for increasing environmental care behavior which is included in the high category. While the acquisition of gain normalized values (g) the behavior of citizens' responsibilities in a classical manner is 65% or 0.65 included in the medium category.

3.2. Citizen response to learning

Data on citizen response to E-JAS learning using the science edutainment approach was obtained by analyzing the citizen response questionnaire at the end of the lesson. The results of the analysis of citizen responses can be seen in table 3 below.

Table 3. Student response to the E-JAS model with the science edutainment approach

No	Questions	Answer: Yes (%)
1	Interest in the E-JAS learning model with the science edutainment approach.	100
2	The E-JAS model with a science edutainment approach can improve the environmental care behavior of citizens	100
3	The E-JAS model with a science edutainment approach can improve citizen responsibility behavior	100
4	The E-JAS model with a science edutainment approach can improve citizen responsibility behavior	100
5	The E-JAS model with a science edutainment approach makes learning more enjoyable	100

Table 3 shows the results of citizen responses to the learning of the E-JAS model with the science edutainment approach. Overall the residents gave a positive response to the learning of the E-JAS model with the science edutainment approach.

Based on the results of the average score of the environmentally responsible behavior and the responsibilities of the community after learning with the E-JAS model with a science edutainment approach higher than before learning. The results of the normalized gain test show that as many as 57.14% of the residents experienced an increase in the score of environmental care behavior and responsibility in the high category. Whereas classically the normalized gain value (g) is 73% or 0.73 for increasing environmental care behavior which is included in the high category and is 65% or 0.65

for responsibility behaviors which are included in the medium category. They are increasing the score of environmental care behavior and community responsibility after learning is due to the application of the E-JAS model to the science edutainment approach. Savitri in his research, stated that learning with natural surroundings emphasizes activities in real conditions to open up diverse insights into people's thinking. E-JAS learning invites residents to explore the surrounding area so that citizens know firsthand the real conditions of the environment. Learning directly in this environment can provide knowledge and experience for citizens so that citizens can determine good attitudes towards the environment.

The application of the E-JAS model with the science edutainment approach in learning can increase the behavior score of the environment and the responsibility of citizens both individually and classically. Increasing the score of behaviors that care for the environment and responsibility can have a positive influence on the cultivation of character caring for the environment and responsibility. Sari (2013) stated that natural roaming learning could be applied by educational institutions to foster character education for citizens. E-JAS learning with a science edutainment approach provides a direct learning experience for citizens so that citizens can determine attitudes towards the environment.

Learning experiences obtained by citizens directly from the environment can improve environmental care behavior and can also have a positive effect on increasing citizen responsibility behavior. This is in Savitri's opinion [9] which states that the JAS can foster conservation soft skills such as environmental care, environmental love, responsibility, creative, hard work, and objective. Residents see the environmental conditions directly so that they can determine the attitude that must be taken towards the environment.

Learning the E-JAS model with a science edutainment approach invites citizens to learn directly in the environment in a pleasant atmosphere. According to Uno [10] states that learning with the use of the environment can create a comfortable learning atmosphere and allow citizens not to experience burnout. The Ministry of Education and Culture [5] also states that the use of the environment as a learning resource enables learning to be more interesting, not boring and fosters a sense of enthusiasm among citizens. This is by the results of citizen responses stating that learning with the E-JAS model with the science edutainment approach makes learning more enjoyable.

Direct experience and direct involvement of citizens in the environment are also able to increase people's interests and activities. Uno [10] states that the motivation to learn citizens will be more increased when experiencing learning by utilizing a different environment than usual. The results of the citizen response questionnaire showed that the whole community expressed interest in learning the E-JAS model with the science edutainment approach. Also, the entire community stated that the learning of the E-JAS model with a science edutainment approach could increase its activities in learning. Sari [11] in his research, stated that the direct involvement of citizens in learning could increase citizen activities. Increasing the activities and interests of citizens indirectly can have a positive effect on the learning outcomes of citizens. The application of the E-JAS model to the science edutainment approach besides being able to have a positive effect on improving the character values of citizens, especially environmental care and responsibility can also make citizens more active and enthusiastic in learning.

Citizens give a good response to the environment indicated by an increase in the score of environmental care behavior and responsibility for the environment. Based on the results of the citizen response questionnaire as a whole, the residents responded that the application of the E-JAS model with the science edutainment approach could improve their environmental care behavior. Also, 86% of citizens stated that the application of the E-JAS model with the science edutainment approach could improve their behavior of responsibility. These results indicate that the application of the E-JAS model with the science edutainment approach has a positive effect on improving environmental care behavior and citizen responsibility. Overall, the response of the residents to the learning of the E-JAS model with the science edutainment approach was included in the good category.

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4. Conclusion

Based on the results of the study, it can be concluded that the E-JAS model with a science edutainment approach can improve environmental care behavior and citizen responsibility indicated by the normalized gain test results. Based on the classical normalized gain test, the normalized gain value (g) is 73% or 0.73 for increasing environmental care behavior which is included in the high category. Gain normalized value (g) for the behavior of citizens' responsibilities classically is 65% or 0.65 included in the medium category. Citizens' responses to learning with the E-JAS model with the science edutainment approach included in the good category.

References

- [1] Indonesia R 2003 Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional *Departemen Pendidikan Nasional*
- [2] Thomas L 2012 *Character Matters* (Jakarta: Bumi Aksara)
- [3] Aziz E 2013 *Upaya Pelestarian Lingkungan Hidup Melalui Pendidikan Islam* (Yogyakarta: Pustaka Pelajar)
- [4] Alimah S 2012 Pengembangan Pembelajaran Experiential Jelajah Alam Sekitar pada Mata Kuliah Biologi *Proceeding Seminar Nasional MIPA Unnes: Peran MIPA dalam Meningkatkan Kualitas Hidup dan Pengembangan Pendidikan Karakter* (Universitas Negeri Semarang) pp 594–600
- [5] Kemdikbud 2016 *Panduan Teknis Pembelajaran dan Penilaian Di Sekolah Dasar* (Panduan Teknis Pembelajaran dan Penilaian Di Sekolah Dasar: Kementerian Pendidikan dan Kebudayaan)
- [6] Taufiq M, Dewi N R and Widiyatmoko A 2014 Pengembangan media pembelajaran ipa terpadu berkarakter peduli lingkungan tema “konservasi” berpendekatan science-edutainment *J. Pendidik. IPA Indones.*
- [7] Sugiyono 2014 Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi (Mixed Methods) *Metode Penelitian Kuantitatif, Kualitatif dan R&D*
- [8] Ruseffendi E T 2010 *Dasar-dasar penelitian pendidikan & bidang non-eksakta lainnya* (Bandung: Tarsito)
- [9] Savitri E and Sudarmin 2016 Penerapan Pendekatan JAS (Jelajah Alam Sekitar) Pada Mata Kuliah Konservasi dan Kearifan Lokal Untuk Menanamkan Softskills Konservasi Pada Mahawarga IPA Unnes *Unnes Sci. Educ. J.* **5** 1102–7
- [10] Uno H and Mohamad N 2015 *Belajar dengan Pendekatan Pembelajaran Aktif Inovatif Lingkungan Kreatif Efektif Menarik* (Jakarta: Bumi Aksara)
- [11] Sari Y K, Susilowati S M E and Ridlo S 2013 Efektivitas Penerapan Metode Quantum Teaching Pada Pendekatan Jelajah Alam Sekitar (JAS) Berbasis Karakter dan Konservasi *Unnes Sci. Educ. J.* **2** 166–72

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Education, 2019

Publication

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www.scribd.com

Internet Source

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10

Andea Nurellah, M. Syarif Sumantri, Agung Purwanto. "An Analysis of Environmental Caring Character Application through the Nature-Based School Program in International Green School of Sumedang, Indonesia", International Journal of Advances in Scientific Research and Engineering, 2018

Publication

<% 1

11

Lana Pratiwi Rukmana Sutoyo, Wiwin Hendriani. "Peran Dukungan Keluarga dan Konsep Diri Terhadap Peningkatan Keterampilan Sosial Anak Tunarungu di Sekolah Inklusif", PHILANTHROPY: Journal of Psychology, 2018

Publication

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12

Uba Umbara, Zuli Nuraeni. "IMPLEMENTATION OF REALISTIC MATHEMATICS EDUCATION BASED ON ADOBE FLASH PROFESSIONAL CS6 TO IMPROVE MATHEMATICAL LITERACY", Infinity Journal, 2019

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