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Utilization of the Unversity's Official Website for Environmental Education

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ABSTRACT

Indonesian public awareness about the importance of the environment is still quite low. For example, concern about cleanliness which will have an impact on the environment and health, so it is important to encourage environmental care activities. The University Level Educational Institution was chosen because students have a very important role, namely as one of the Agent of Change that is expected to be able to bring better change to Indonesia's change. This study aims to determine how the role of the official website of the university in Indonesia on the educational environment. With this study will be known how much the level of awareness of the importance of environmental education in a university environment in Indonesia. Based on the results of the study.

I. INTRODUCTION

Environmental problems have been addressed in various fields such as engineering, public administration, and law. Although chemical and biological technology has been developed in the field of engineering for environmental purification, fundamental solutions to environmental problems can be found through environmental education, because it builds people's attitudes and willingness to do environmental preservation [1], [2]. Human life is very dependent on the conditions of the quality of its environment. When the quality of the environment is clean and healthy, humans can live comfortably and productively, but on the contrary if the quality of the environment is bad, their human life is also uncomfortable and unproductive. Everyone wants to be able to live in a clean and healthy environment, with fresh air and clean water [3][4].

Students as one of the agents of change are important to have an awareness of the environment. Students are responsible for the quality of their environment. So, we need education about li n gkungan life at the university level so that students are able to me n guard and preserve the environment around them, especially the environment surrounding the university. Every university in Indonesia must have an official website that is used to facilitate publications and communication between universities and students, for example to make announcements or deliver news [5], [6].

Therefore, in this study, observations will be made on how big the role of the official website of universities in Indonesia in providing understanding and love for the environment with the aim of increasing knowledge and increasing student awareness to preserve the environment [7], [8].

II. METHOD

In this research this study uses the observation method to evaluate website the university's official website that focus on two areas, that is Basic instruments for website valuation and the environmental quality, the details of the research are explained below.

A. Basic instruments for website valuation

Accessibility, the section that explains how good a website is in its access aspects. Like whether the website can be

accessed using the latest technologies that exist today such as through cellphones [9]. Readability, the section that explains "Is the site comfortable to read?" And "Can the user easily read and understand the contents of the site" [10]. Speed, the section that explains the speed at which a site appears. User tend to be lazy and immediately close the browser when they open a site that is slowly accessed, so they have to wait a long time to see the site's display. Content, the section that describes the contents of the website. Content is the most important part of an assessment. Therefore the content must be interesting, relevant, and appropriate for the target audience of the intended site. Technology, explain about what applications or technologies are used in developing the website.

B. Environmental quality

While the quality of the environment currently starts quantitatively using the Environmental Quality Index adopted from several sources including the Environmental Performance Index (EPI) developed by a study center at Yale University. The three indicators that form the basis of the IKLH assessment in Indonesia currently cover aspects of air, river water and forest cover. The new version of the Environmental Quality Index is a new term that combines the overall types of environmental quality indexes of all dimensions which include air, water, forests, flora, and fauna, public health, and environmental health [11]–[14].

This study also has limitations that are: (1) the website observation target is limited only to Indonesian State Universities in the region of Java. This study did not take data from private universities because there were quite a lot of differences, (2) analysis of data for university websites for education about the environment by comparing the quality of websites with content about the environment in them.

III. Result and Discussion

Data retrieval of this research is done through observation of the official websites of the universities that have been determined. The number of instances of this dataset is 29 instances with 16 attributes.

TABLE I. Data Attribute

Atribut name	Data type
Web Accesibility	Real
Web Readibility	Real
Web Speed	Real
Web Content	Real
Web Technology	Real
Environmental Department / Study Program	Polynominal
Environmental Organization at the University	Polynominal
Special Web page on the Environment	Polynominal
Environmental Content	Polynominal
Upload Frequency of Environmental Content	Polynominal
Water Quality	Polynominal
Air Quality	Polynominal
Green Park	Polynominal
Environmental Layout	Polynominal

A. Basic Instrument for Website Assessment

The results of the website observations of universities in Indonesia, especially those who are in the island of Java. Appraisal quality of websites is given a range of values from 1 to 5. The greater the value the better the quality of the website. The following is the visualization of the results for the field of basic instrument website ratings.

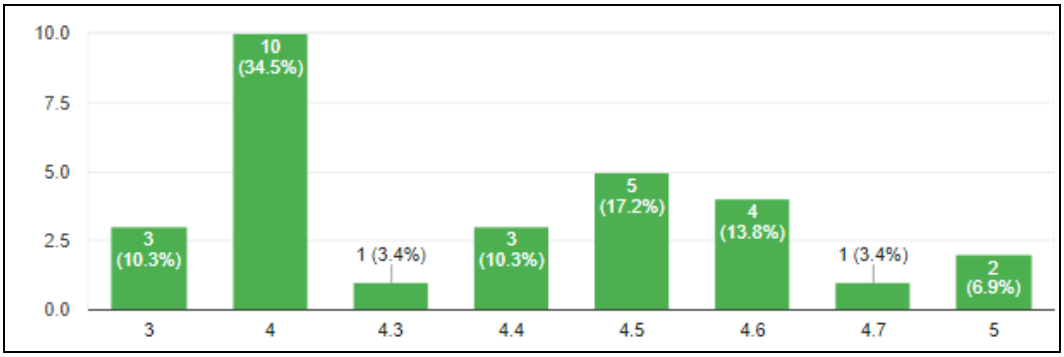

Fig. 1. Web Accessibility Grap

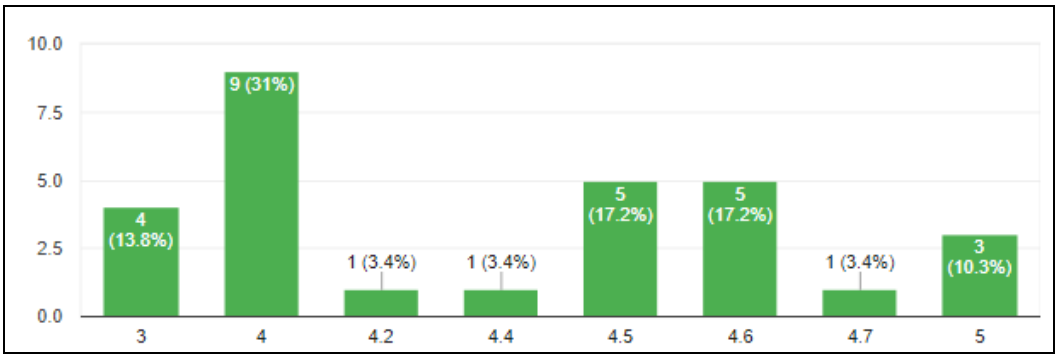

Fig. 2. Web Readability Grap

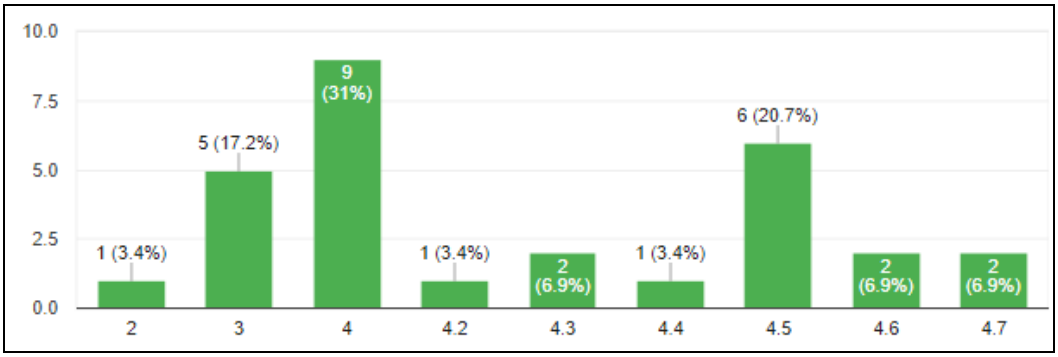

Fig. 3. Web Speed Grap

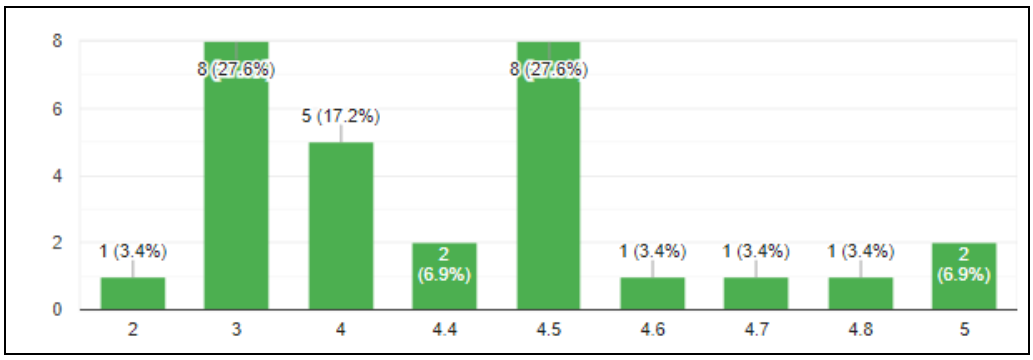

Fig. 4. Web Content Graph

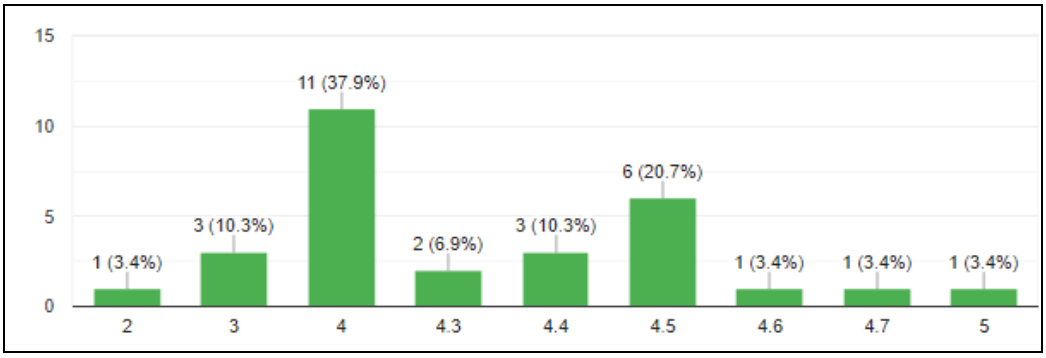

Fig. 5. Web Technology Graph

From Figure 1, it can be seen that most of the accessibility performance of the website has a value between 3 and 5. Most websites have a value = 4 and the least have values = 4.3 and 4.7. From Figure 2, it can be seen that most of the Readability performance of the website has a value between 3 and 5. Most websites have a value = 4 and the least have values = 4.2, 4.3 and 4.7. From Figure 3, it can be seen that most of the Speed performance of the website has a value between 2 and 4.7. Most websites have a value = 4 and the least have values = 4.2 and 4.4. From Figure 4 it can be seen that most of the Content of the website has a value between 2 and 5. Most websites have a value = 3 and 4.5 and the least have values = 4.6, 4.7 and 4.8. From Figure 5 it can be seen that most of the Technology of the website has a value between 2 and 5. Most websites have a value = 4 and the least have values = 2, 4.6, 4.7 and 5.

Result of the graph in Figure 1 – 5, the average quality of official websites of State Universities in Indonesia is quite good. The quality of the website will affect how often students will access the official website of their university. One of them is website content, if a lot of interesting content, students will certainly visit it often.

B. Environmental Content

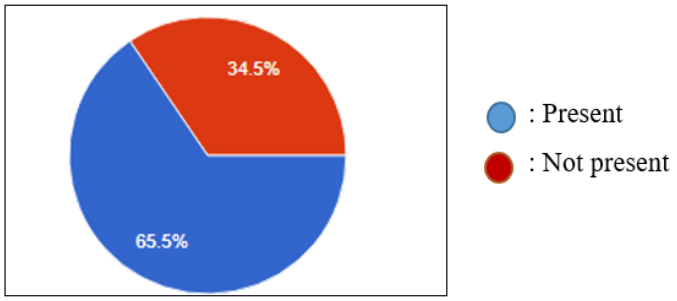

Fig. 6. Environmental Department / Program Study Graph

From Figure 6 it can be seen that most universities have departments / study programs that are related to the environment, which is equal to 65.5%. The following are the names of departments / study programs relating to the environment obtained from observations of the universities:

- Biology Education
- Environmental Engineering
- Agrotechnology
- Department of Geography
- Geological Engineering
- Environmental Sciences
- Environmental Geography
- Agriculture
- Geography Education
- Regional Planning and City Planning
- Environmental Health
- Natural Knowledge
- Environmental education
- Civil Engineering

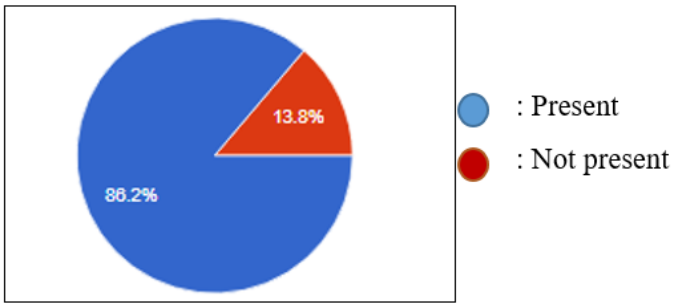

Fig. 7. Environmental Organization at the University

From Figure 7 it can be seen that most universities have Environmental Organization, which is equal to 86.2%.

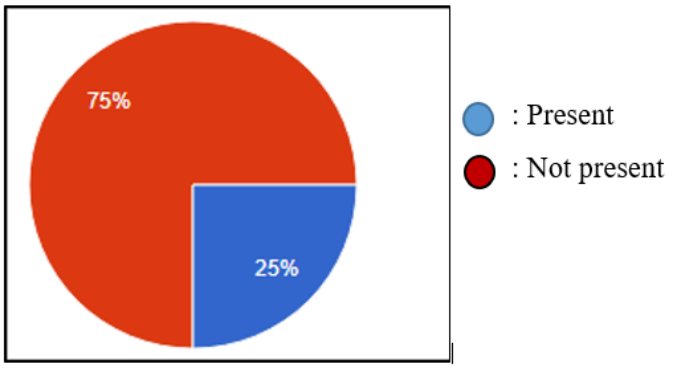

Fig. 8. Special Web page on the Environment

From Figure 8 it can be seen that most universities do not have Special Web page on the Environment, which is equal to 75%.

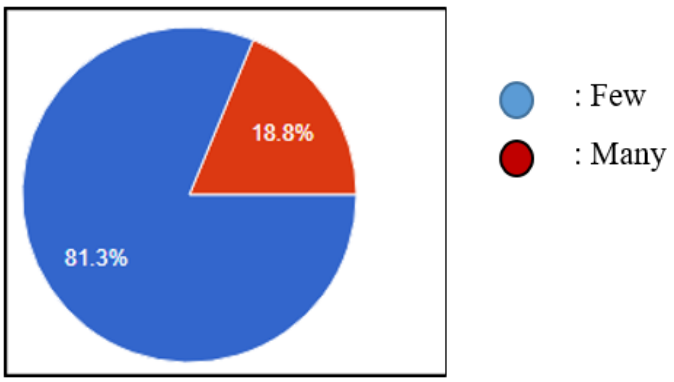

Fig. 9. Environmental Content

From Figure 9 it can be seen that most universities just have a few Environmental Content, which is equal to 81.3%.

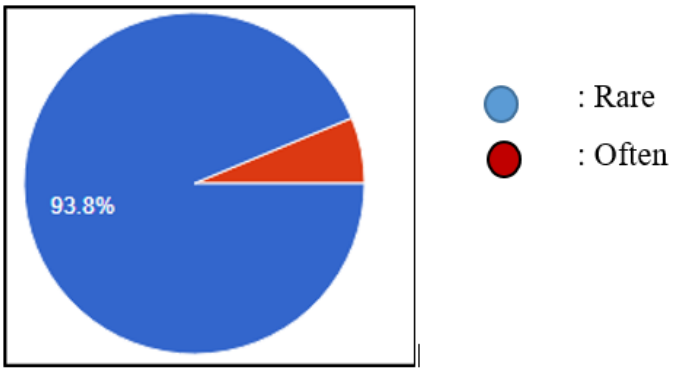

Fig. 10. Upload Frequency of Environmental Content

From Figure 10 it can be seen that most universities rare have Upload Frequency of Environmental Content, which is equal to 93.8%.

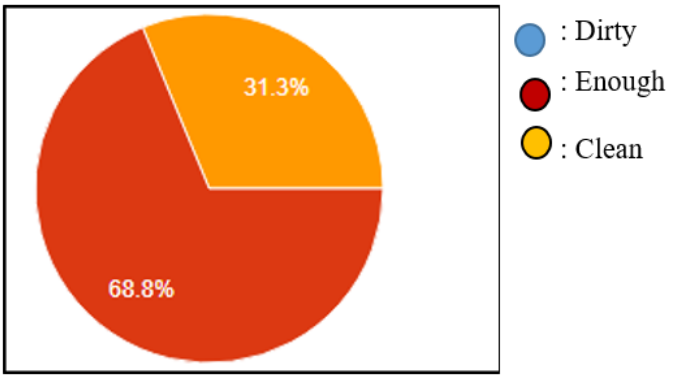

Fig. 11. Water Quality Graph

From Figure 11 it can be seen that most universities have enough Water Quality, which is equal to 68.8%.

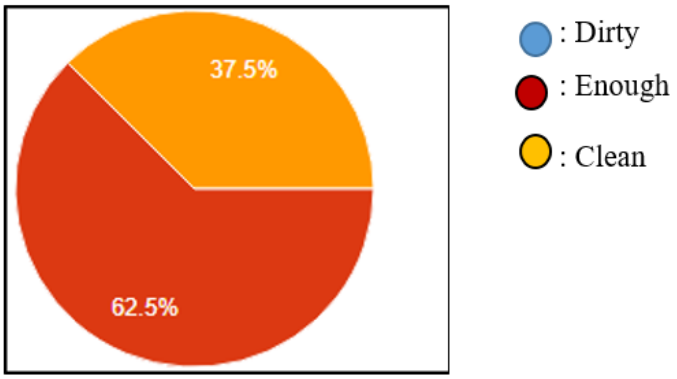

Fig. 12. Air Quality Graph

From Figure 12 it can be seen that most universities have enough Air Quality, which is equal to 62.5%.

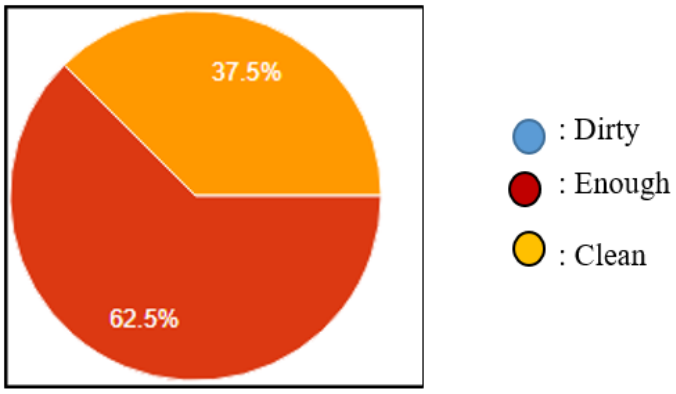

Fig. 13. Green Park Graph

From Figure 13 it can be seen that most universities have enough Green Park, which is equal to 62.5%.

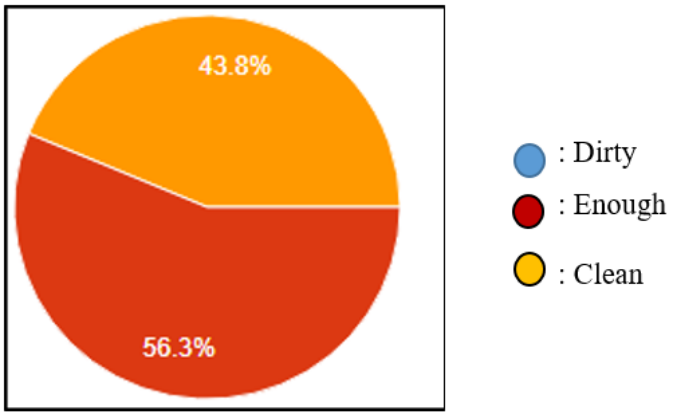

Fig. 14. Layout Graph

From Figure 14 it can be seen that most universities have enough Environmental Layout Quality, which is equal to 56.3%. the results of observations are shown in the comparison Table 2.

TABLE II. ENVIRONMENTAL CONTENT RESULT COMPARISON

Aspects	Results	
	Present	**Not Present**
Environmental Department / Study Program	65.5%	34.5%
Environmental Organization at the University	86.2%	13.8%
Special Web page on the Environment	25%	75%
	rarely	**often**
Upload Frequency of Environmental Content	93%	7%
	dirty	**enough**	**clean**
Water Quality	-	68.8%	31%
Air Quality	-	62.5%	37.5%
Green Park	-	62.5%	37.5%
Layout	-	56.3%	43.8%

The average of water, air, green park and university layout quality are average. There are only a few who have good environmental quality.

The results of the observation above, the quality of the website affects the frequency of students to visit the university's official website. The better the quality of the website, the students will often visit the website . Most university websites already have pretty good technology, but the content about the environment is still very lacking . If more on the website of environmental content is reproduced, then this will be very helpful in providing environmental awareness education and this should be accompanied by increased quality and frequency of information that provides education about the environment.

IV. Conclusion

The main objective of environmental education is based on the formation of individual attitudes and habits for environmental preservation. To reflect on the current top issues of the environment, this app aims to provide efforts to educate and inform students about environmental problems.

Through the official web program at the university level, it is expected to create university citizens responsible for environmental protection and management efforts. University-level educational institutions are expected to be agents of change.Based on observations from the data obtained, it can be seen that the use of official websites at university level institutions in environmental education has different results at each state university in Java .

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