

The Ecological Literacy of Prospective Teacher at Sebelas Maret University

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ABSTRACT

The aim of this study is to determine the ecological literacy ability of prospective teachers at Sebelas Maret University (UNS). This research was conducted on students at the Faculty of Teacher Training and Education (FKIP) UNS Surakarta. The subjects of the study used two courses that gave the ecology course namely Biology Education Study Program and Geography Education Study Program. Subjects in both Study Programs are devoted who are already or are currently receiving ecological subjects. The number of subjects in two study programs were 98 students. Research subjects were taken by stratified random sampling technique. Qualitative descriptive technique is used to analyze each component of ecological literacy. The results showed that the average value of ecological literacy and the value of each component of the students' ecology literacy is still low. Provision of less than optimal ecology concept to be one factor that causes low ecological literacy of student.

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1. INTRODUCTION

1.1. Environmental Problem

According to [1] over the last few years, the earth has shown a lot of evidence of the main problems that cause disturbance of ecosystem balance. All the problems that occur are related to global warming and the main causes of global warming comes from human activities [1], [2]. Daily human habits and awareness greatly influence the increasing environmental problems. Shamuganatha and Karpudewan [3] stated that human behavior is a form of responsibility to preserve the environment. Kaiser et al [4] added that there is a close relationship between human behaviors towards the ability to maintain the environment. A growing culture of consumerism, the use of vehicles, deforestation, land conversion, and other activities of several people in various developing countries cause environmental problems [5].

1.2. Ecological Literacy

Environmental problems that occur especially in Indonesia can be overcome through various ways one of which is to improve understanding of the environment through the study of ecology called ecological literacy. Lewinsohn et al [6] stated that the study of ecology can contribute to providing understanding to the community in handling environmental issues ranging from local, regional, and global. This opinion is supported by [7] that assessing ecology with ecological literacy has a scientific role to enhance logical knowledge and thinking in identifying the causes of the relationship effects in social system of the

environment, and it is used to support decision making. Reid et al [8] suggests that ecological literacy can be applied through a multidisciplinary approach of science that requires the establishment of an educational framework to support young people to develop human competence and capacity.

1.3. Education for Sustainable Development (EfSD)

Zverev [9] considers that ecological education as a fixed process in learning to direct a person in developing his potential through the establishment of scientific knowledge system and practical skill aimed at improving one's moral and aesthetic to maintain the quality of the environment. Education is very important in gaining the knowledge, skills, attitudes and values necessary to protect the environment [10]. UICN [11] adds solutions for environmental improvement through education which has been formulated in the design of agenda 21 activities. The real movement of Agenda 21 in education is formulated in Education for Sustainable Development (EfSD).

According to [12] and [13] that the learning used for the sustainability process should be significantly different from many other lessons. Education to achieve sustainable development should focus on developing the quality of the human life or natural resources. Every educational institution in the world has been encouraged to be involved in education for sustainable development. Educational institutions are required to apply ecological principles in each curriculum. The curriculum used should promote environment-based learning. Ecological science is an environment-based education that can be used to take decisions on various actions related to environmental issues [14].

1.4. Sebelas Maret University as Green Campus

The University is one of the educational institutions that creates young generation who have critical and innovative thinking on environmental issues. Wals and Jickling [15] states that universities have the function to provide facilities for students to face political challenges with critical thinking from some scientists. Fukushima et al [16] added that the role of the university as the closest connectors with sustainability issues and stakeholders of any country. Sebelas Maret University (UNS) is one of 6 universities in Indonesia that become the reference of the Ministry of Environment in implementing eco-friendly campus. An eco-friendly campus is also called Green Campus. Sebelas Maret University (UNS) has a legal protection as the policy foundation of Green Campus management through Rector of UNS Regulation No. 827A/UN27/KP/2013 on Guidance of eco-friendly Campus Management of Sebelas Maret University [17]. The implementation of an eco-friendly campus arrangement in Sebelas Maret University area was conducted by all civitas accedemia and supported by Head Office, LPPM/Research Center, Postgraduate Program, Faculty, and other relevant work elements.

Faculty of Teacher Training and Education (FKIP) is one of the faculty in UNS that supports Green Campus program. FKIP UNS is a faculty that has the largest number of facilities and students in UNS. FKIP has vision to have strong and intelligent character that strongly supports the Green Campus program. The vision of strong and intelligent character is expected to create students who have the character in maintaining and managing natural resources in Indonesia. The study program at FKIP that emphasizes the ecology knowledge in the course of study are Geography Study Program and Biology Study Program. Students from Geography and Biology study programs gain an ecological knowledge that enables them to have a basic concept of ecology to preserve and manage natural resources in Indonesia. The ecological knowledge gained from the course is expected to increase students' awareness of environmental issues, and develop the potential for critical thinking in decision making.

2. RESEARCH METHOD

Data collection of students' ecology literacy ability is using ecological literacy questionnaire instrument consisting of three components, namely: knowledge, concern, and attitude.

2.1. Ecological Literacy Instrument

The instruments in the knowledge component are structured referring to the ecological concept [6]. The ecological concept has 10 aspects according to Lewinsohn that includes ecosystem resilience, productivity, nutrient cycling, functional redundancy, trophic cascade, habitat fragmentation, community assembly, dispersal, population control, ecophysiological adaptation, and one additional aspect of anti-anthropocentrism, the preparation of questionnaires is adjusted to dimensions of knowledge and cognitive dimensions according to Taxonomy Bloom that have been revised [18]. Instrument type for the knowledge component are in the form of multiple choice questions consisting of 33 questions. Each one aspect of the knowledge component has 3 question items.

Instruments for attitude components using NEP (New Ecological Paradigm) instruments that have been validated and have been applied in several countries [19]. The NEP has five aspects that include the fragility of nature's balance, the reality of limits to growth, the possibility of an eco-crisis, anti-anthropocentrism, rejection of exceptionalism [19-20]. Currently NEP instruments have been refined and developed into fifteen statements with 5 points Likert scale [21-23].

Instrument component of concern is prepared to know the readiness of students in behaving friendly environment. The instrument of concern is arranged with three aspects covering the basic concept aspect consisting of 22 items to measure the students' concept of ecology concept to environmental problem, frequency aspect with 15 items to measure the habit which is often done by the students to care for the environment, and the availability aspect with 15 items to measure students' awareness to protect the environment with daily life activities. Preparation of an instrument of concern for each aspect uses a questionnaire containing a question and statement with a 5 point Likert scale assessment.

2.2. Research Subject

The selection of student subject is done by using propotionate stratified random sampling technique toward the students at Faculty of Teacher Training and Education of Sebelas Maret University. The number of students used were 98 students consisting of 39 students of Biology Education Study Program and 59 students of Geography Education Study Program. The reason for taking them is based on giving the ecology concept to the course received in the lecture. Measurement of ecological literacy capability will be better implemented on objects who have or are learning about ecology in Faculty of Teacher Training and Education.

2.3. Data Analysis

Questionnaire responses to the filling of ecological literacy instruments were then analyzed using descriptive qualitative techniques to see the results of each component of ecological literacy.

3. RESULTS AND ANALYSIS

The result of filling the questionnaire of ecological literacy is then analyzed using descriptive qualitative technique to observe student's ability toward every component of ecological literacy.

3.1. Result

3.1.1. Ecological Knowledge Component

The students' ecological knowledge is scored based on the number of correct responses on 33 questions given in the the questionnaires. If the respondent answers correctly, they are assigned a numerical value of one (1), but if they answer incorrectly, they receive a zero (0). The highest possible value for the knowledge component is 33 while the zero is the lowest value. Thus, the ability of students is adequate or not on the scale of ecological knowledge. Respondents who received an average score of 70% or higher (24 questions or more answered correctly) were considered to have an adequate level of knowledge [24-25].

Table 1. Ecology Knowledge Score of Student of Prospective Teachers

Number of Questions Answered correctly	Score Range Percentage	Number of Students	Conclusion
29 or more	90 – 100%	-	Enough
25-28	80 – 89%	-	Enough
24	70 – 79%	-	Enough
19-23	60 – 69%	45 (45,91%)	Not enough
18 or less	59% or less	53 (54,08%)	Not enough
Mean = 18,24		S.D = 2,35	

The results shown in Table 1 show that no student is considered to have an adequate ecological knowledge base. The overall average score for students for the ecological knowledge component was 18.24 with the standard deviation (S.D) of 2.35. The highest score received was 23 and the lowest was 13.

Table 2. Percentage of Correct Answers to Ecology Knowledge Component Questions

No.	Questions	Correct Answer (%)	Average Score
1	Water conditions on the surface of the earth vary from one place to another, and between one time and another. Differences in water conditions between places and time caused by differences in several factors, some of those are.	10.2	
2	Sunlight has varying wavelengths. Sunlight reaches the earth after passing through several layers of protection in the atmosphere. One such layer is the ozone layer. It is known that the ozone layer has a very important role for the life of organisms on earth. What will happen if the ozone layer is damaged?	25.5	21.42
3	Oxygen is an organic form of gas that is very important for animals. Changes in oxygen content are very influential on aquatic animals and soil animals. The condition of oxygen deprivation in the water environment is usually referred to as BOD (biological oxygen demand). What factors cause BOD levels to increase in the water environment?	28.5	
4	The visible light is one part of the spectrum of sunlight that the human eye can see. Rays appear to enter the earth and play an important role in the supply of energy for the organism. How are visible lights exploited by organisms on earth?	66.3	
5	Animals generally get chemical energy in the form of carbohydrates stored in plants or other animals. The energy is used to produce the heat required for metabolic activity. Some types of animals can regulate the production of heat to maintain their body temperature. How does an animal that can not regulate the production of heat in maintaining its body temperature?	26.5	48.63
6	In the dry season the level of productivity of plants in producing energy becomes higher when viewed from the intensity of sunlight. However, in the dry season is also often found plant productivity being decreased, what is the cause of decreased productivity in the dry season?	53.0	
7	The use of long-term pesticide on agricultural land can cause negative impacts of the ecosystem. When nitrogen levels in an ecosystem decline, the organism that first receives its negative impact is...	48.9	
8	Here is an example of the activity of living things to gain energy. The activity which is the application of energy flow in life is ...	74.4	63.94
9	Since the industrial revolution in 1850, the concentration of carbon dioxide in the atmosphere has increased significantly. The main cause of the amount of carbon dioxide increasing over the last 150 years is...	68.3	
10	What is the greatest threat to biodiversity?	36.7	
11	Drought that hit some areas during the dry season is due to the forest around the area has been converted as settlement and agricultural land. Drought can be prevented by reforestation program. What is the role of reforestation for water availability?	59.1	
12	Water pollution is caused by the various pollutants coming into the water environment derived from household waste, factories, and organisms. Several types of organisms have the ability to identify an environment contaminated with harmful substances. The use of these organisms is commonly known as bioremediation. Which of the following is considered an example of bioremediation?	26.5	40.,1
13	Interactions that occur in a community can create an eating-eaten relationship between organisms to survive. The process of eating-eaten in a community determines the location of the organism at...	56.1	
14	The food chain in the ecosystem can be disrupted if the population of each trophic level changes. In the food chain there must be one key predator that controls the eating-eaten process. Key predators can maintain the food chain cycle and species diversity in ecosystems when the predator...	63.2	
15	In the 1850s, Charles Darwin and Alfred Wallace demonstrated that the life of flora and fauna in general is more abundant and diverse in the tropics than in other parts of the earth. The degree of diversity of organisms is affected by the gradient of the latitudes of the earth. The most reasonable hypothesis to explain why species richness in tropical regions is higher than temperate regions is ...	82.6	67.34
16	The transfer of empty space into densely populated settlements and industrial zones often occurs in large cities. Empty spaces are diminishing while environmental problems are increasing. What problems arise with the overridden space function?	97.9	
17	Indonesia is one of the world's largest suppliers of oil palm. The need for products from processed oil palm from time to time is increasing. This is the reason why oil palm companies are diverting forest functions to be used as oil palm plantations. Do you think, what is the impact on the environmental balance of the forest conversion activities?	95.9	95.91
18	Man will never feel enough and satisfied to meet his life needs. Humans, to meet their needs, sometimes have to sacrifice other organisms by depriving its habitat. If the habitat of the organism is disrupted, the negative impact of it is extinction. Below are human activities that can destroy the habitats of other organisms! <i>except...</i>	93.8	
19	At one time, the population of a community that occupies an area is deprived of food because its environment is unable to provide nutrients to the population. So that population will experience ...	83.6	
20	The spread of Bull (<i>Banteng</i>) in Java island, nowadays, only exist in Taman Nasioanl Baluran (East Java) and Ujung Kulong National Park (West Java). Bulls adapt to their own environments thus it creates an isolation that allows both types of bulls to be unable to genetically exchange or breed. Isolation that occurs in both types of bull is called isolation of ...	29.5	40.13
21	The Finch Darwin Bird flocks on the Galapagos Islands is spread separately on different islands. Finches find different habitats when migrating from the American mainland to the Galapagos Islands. The event is an example of isolation of ...	7.1	

Table 2. Percentage of Correct Answers to Ecology Knowledge Component Questions

No.	Questions	Correct Answer (%)	Average Score
22	The diversity of fauna in Indonesia is abundant. There are various types of endemic fauna in every island in Indonesia. From the diversity of the fauna, Indonesia is divided into several regions, namely ...	47.9	
23	The Government of Indonesia issues policies related to transmigration of the population. This policy has evolved from one period to the next. Regardless of the evolution, the aim of the government to issue a transmigration policy is <i>except</i> ...	32,6	55.44
24	Kangaroos are typical Australian animals, but the presence or habitat of kangaroos is not only in Australia, in eastern Indonesia there are several types of kangaroos that live and thrive there. When viewed from the geographical location, Indonesia and Australia are separated by a vast ocean, how was the process of spreading the kangaroo population?	85.7	
25	The rise and decline of the human population is the result of a function combination of three factors: birth, death, and migration. The main factor determining the increase in population is the birth rate. Increase of birth rate in each country is different. The following factors that do not include in influencing the birth rate are ...	31.6	
26	Indonesia ranks fourth in the order of population among countries in the world. Current population growth rates in Indonesia may not be high, due to the success of government programs related to birth control, especially family planning programs. The main factors leading to the success of family planning programs in Indonesia are	69.3	45.23
27	Urbanization is a process of shifting from rural to urban. The change of form is caused by the movement of the people from the village to the city. The process of urbanization is influenced by the reason that is <i>except</i> ...	34.6	
28	Insects are organisms with the greatest number of populations in the area of Mount. Kidul. This is caused in the area of Kidul mountain has a geographic environment that tend to be dry and hot. That environmental conditions are a problem for some animals to the process of taking oxygen and water loss. How do these insect organisms adapt to the environment in Mount. Kidul?	51.0	
29	Puffer fish is a type of fish that has a poor swimming ability. The puffer fish swims very slowly, allowing predatory animals to prey them easily. Instead of its weakness, the puffer fish has the most powerful defense adaptation mechanism, what are the defense mechanisms of the puffer fish?	83.6	68.36
30	Salmon belongs to the group of euryhaline organisms; the organisms that have high tolerance to changes in salt content. The salmon migrate to the upper river area to lay their eggs. The difference in salt concentration between seawater and river can provide problems for salmon. How does salmon adapt to different salt concentrations?	70.4	
31	Garbage generated in a household over time will accumulate. Starting from organic waste to inorganic waste. To prevent the accumulation of waste in the landfill, then the way that can be done to reduce the waste is ...	92.8	
32	Andi is an employee in Way Kambas forest. Irresponsible deforestation impacts on the loss of the original habitat of the Sumatran elephant. The loss of habitat makes the Sumatran Elephant looking for settlements which is settled by residents. Andi wants to create a tool that can prevent the transfer of Sumatran elephants to residential areas temporarily. What tools should Andi make?	64.2	60.88
33	Conservation of organisms aims to maintain the sustainability of endangered species, preserve biodiversity, and preserve habitat. In Indonesia there are various forms of habitat conservation, among others: nature reserves, wildlife sanctuaries, and national parks. The three forms of conservation are different. What is the main difference between the three habitat conservation?	25.5	

Table 2 shows that some students answer questions related to the aspect of habitat fragmentation correctly about 95.91%. The question with the least correct response is related to the ecosystem resilience aspect of 21.42%. To nine other aspects of knowledge get responses with scores below 70% those are; productivity (48.63%), nutrient cycling (63.94%), functional redundancy (40.81%), trophic cascade (67.34%), community assembly (40.13%), dispersal (55.44%), population control (45.23%), ecophysiological adaptation (68.36%), and anti-anthropocentris (60.88%).

3.1.2. Ecological Attitude Component

The results of the 5-point Likert scale used in the ecological attitude component instrument are classified in three options (agree, not sure, disagree) to facilitate analyzing results. Assessment of student responses to the ecological attitude component scale is shown in Table 3 below.

Table 3. Percentage of Ecological Attitude Statement on Student Prospective Teachers.

No.	Statements	Agree	Not Sure	Disagree	Mean	S.D.
1	The ability of the earth to support a human population is limited	67.3	24.4	8.1	3.80	0.90
2	Man has the full right to utilize the resources and environment to provide for his life *	28.5	30.6	39.8	2.94	0.98
3	When humans make use of natural and environmental resources, the natural balance often becomes more corrupted	44.9	44.9	10.2	3.38	0.72
4	Humans with intelligence and created technology are always able to solve resource and environmental problems *	27.5	44.9	27.5	3.03	0.87
5	In utilizing natural resources, humans always act without careful consideration	42.8	38.7	17.3	3.31	0.84
6	The earth surely has many natural resources to support human life, but humans do not have enough knowledge to make use of them. *	54.0	34.7	11.2	3.55	0.85
7	Living things other than humans have equal rights to live and utilize resources and environment	92.8	6.1	1.0	4.29	0.64
8	Natural resources and environment will not be disturbed by modernization and technology created by humans *	15.3	17.3	60.3	2.37	1.03
9	Despite having intelligence and technology, humans remain subject to the laws of nature	52.0	27.5	19.3	3.50	1.02
10	The condition of natural resources and environment now tends to get worse and can endanger human survival. *	75.5	18.3	5.1	3.87	0.76
11	Earth has limited space and resources to support human life	59.1	20.4	20.4	3.50	1.10
12	Man can fully control the natural resources and environment to be used for his benefit *	25.5	48.9	43.7	2.63	1.16
13	The balance of nature is very easy to destroy	63.2	22.4	14.2	3.63	1.02
14	Humans always learn from nature to be able to control their natural resources and environment for their sake *	45.9	50	4.0	3.47	0.69
15	The story of damage to the environment and natural resources is actually exaggerated	8.1	13.2	78.5	2.05	0.92
	Average	46.8	29.4	24.0	49.4	5.11

* negative statements, rating scales are reversed.

Based on the results of 5-point filling Likert scale on the instrument of ecological attitude shows that the majority of students agree on statement such as:

- "Living things other than humans have equal rights to live and utilize natural resources and environment" of 92.8%.
- "The condition of natural resources and environment now tends to get worse and can endanger human survival" by 75.5%.
- "The ability of the earth to support a limited human population" of 67.3%.

As for the results of filling the instrument of ecological attitude that indicates that the majority of students do not approve on statements such as:

- "The story of environmental damage and natural resources is actually overrated" at 78.5%.
- "Natural resources and environment will not be disturbed by modernization and technology created by humans" of 60.3%.
- "Man can fully control the natural resources and environment to be used for his benefit" of 43.7%.

Table 3. shows the average scale of student behavior toward the ecology of 49.4% with standard deviation (S.D) of 5.11. This shows that prospective teachers have a positive attitude in protecting the environment.

3.1.3. Ecological Concern Component

Students are asked to express their concerns about some environmental issues globally. Table 4 shows that students assess the three aspects that underlie the concerns about environmental issues. Three aspects of the concern component include the basic concepts, the frequency, and the willingness of the act. The average score of student responses to these three aspects can be seen in Table 4 below.

Table 4. Percentage of Aspects of Student Aid Concerns

No.	Aspect of Concerns	Average Percentage (%)	Mean	S.D
1	Basic Concept	78.35	86.1	7.73
2	Frequency	62.19	46.6	6.98
3	Availability of Acts	72.17	54.2	8.38

Based on the results of the students' ecological concern instruments in Table 4, it shows that the score of each aspect of the concern component has a relatively low. These results indicate that the students still have low concerns about environmental issues that occur. The highest score is in the aspect of the basic concept of 78.35% with mean 86.1 and standard deviation (S.D) 7.73. While the lowest is in the aspect of frequency of 62.19% with a mean value of 46.6 and standard deviation (S.D) 6.98.

3.1.4. The Relationship between Ecological Literacy Components

The Pearson correlation coefficient was calculated to examine the relationship between components of knowledge, attitudes, and student concerns on environmental issues. Table 5 below shows no strong linkage or low correlation values between students' ecological literacy components.

Table 5. Correlation between Ecological Literacy Components

Component of Literacy Ecology	Knowledge	Attitude	Concern
Knowledge	-	0.061	0.913
Attitude		-	0.354
Concern			-

Based on Table 5, it shows the correlation values between the ecological literacy components calculated using SPSS statistics. The correlation value between the knowledge and attitude components shows the low correlation with the significance value of 0.061 (>0.05). The correlation value between the knowledge component and the component of concern also shows the low correlation with the significance value of 0.913 (>0.05), and the correlation value between the attitude component and the concern component indicates a significance value of 0.354 (>0.05) which means having a low correlation value.

3.2. Analysis and Discussion

This study aims to determine the ability of ecological literacy on students of prospective teacher in the Green Campus program at the Faculty of Teacher Training and Education Sebelas Maret University Surakarta. The result shows that the average value of ecology literacy on the prospective teacher is 63.47%. The mean for each component of ecological literacy is knowledge component (52,59%), attitude component (65,33%), and component of concern (75,2%). The results for each component of ecological literacy indicate that the students still have low ability to care for the environment. The results are in line with research on ecological literacy conducted in several countries such as Dajeh [26] in Jordan that conduct research on vocational teachers with relatively low results. Another study was conducted in Nigeria, the results show that the majority of teachers have low knowledge of ecology [27].

3.2.1 Ecological Knowledge

The average value for the ecology knowledge component of 52.59% indicates that the students' knowledge ability toward the ecology is still low. Some reasons supporting the results of the study was obtained from interviews with lecturers and students as well as observation of document learning tools. Supporting data from learning activity aspect and learning model used in teaching learning process is acquired during the interview with lectures. The results of interviews conducted on some students reported that lectures are still often focused on lecturers; lecturers often convey material with lecturing methods and not often present environmental issues as a discussion. These was the reason for the low ecological knowledge of students.

Previous research conducted shows the low understanding of students on environmental issues and problems that occur due to cultural differences in some communities [28]. The problems that caused the weakness of the teacher's understanding of ecology and environmental issues one of them is the readiness of students and other teachers in studying ecology and the limited development of environment-based education curriculum [24]. According to Kolodner [29] the students' knowledge can be improved through the direct application of knowledge they have in various situations and environmental problems.

Environmental knowledge is needed for students of prospective teacher to be able to spread ecological education to learners. In addition to the importance of ecological understanding, the knowledge component can influence behavior that is formed even not consistently. The statement is supported by research conducted other researchers [30] that although knowledge is needed but not enough to shape eco-friendly behavior. This opinion is supported also by the research of [31] and [32] who claim that knowledge does not consistently affect behavior, when the effect is relatively small and must be mediated through skills

possessed by a person. Said et al [33] indicates that the knowledge, attitudes, and habits possessed by prospective teachers may reflect the behavior that the learners have in the future.

3.2.2 Ecological Attitude

Ecological literacy results show a positive, although not significant, score on student attitudes toward the environment of 65.33%. The results for the attitude component according to the results of previous research conducted by [34] in Malaysia, the results of this study indicate that students have a positive attitude towards the environment. However, the results do not match to what done by other researchers which indicates students' low attitudes toward environmental problems [35].

According to Shamuganatha and Karpudewan [3] that one of the solutions to teach ecological literacy is by giving problems on environmental issues because by that one will behave more responsibly in protecting the environment. Their attitudes can shape eco-friendly behaviors as described by Ajzen and Fishbein [36] in the research that has been done. The attitudes of environmental care owned also refers to the amount of awareness of the environment [37]. On the other hand, here are other factors that influence the formation of student attitudes that is a factual knowledge that becomes a prerequisite for any desired attitude [38]. The statement is supported by other researchers stating that the knowledge and attitudes of the environment possessed by the students have an important role in formulating the attitude of environmental care to learners later [39].

3.2.3 Ecological Concern

The components of ecological concerns show the highest average value of the other components of 75.2%. These results indicate students' awareness of the enormous environmental issues. The results are in accordance with previous research which shows that although students have a low knowledge of the environment, they show a high level of concern to contribute in preserving the environment [34].

3.2.4 The Relationship between Ecological Literacy Components

The results of correlation calculations using statistics show no correlation between the ecological literacy components as indicated by the significance value between knowledge components, attitudes, and ecological concerns. The significance value of the ecological literacy component >0.05 so it can be concluded that there is no strong correlation between the ecological literacy component of prospective teachers at the Teacher Training and Education Faculty of Sebelas Maret University. The results of the calculation of the correlation between ecological literacy components in accordance with research which indicates a weakness of significance between ecological literacy components [24], [40].

4. CONCLUSION

The results of the ecological literacy ability of prospective teachers at the Teacher Training and Education Faculty of Sebelas Maret University are still relatively low. Regardless of the value of the knowledge component of students who have the lowest score, the students still have a positive attitude towards the environment furthermore they still have concern for environmental issues to contribute in maintaining the environment. The correlation between the ecological literacy component shows the low correlation which can be seen from significance value of $>0,05$.

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