Student's Conservation Attitudes and Behavior After Conservation and Environment-Courses

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Article Info	Abstract
	Implementation of Conservation and Environmental Education (PKLH) courses is expected to foster mental attitudes and conservation behaviors of Univeritas Negeri Semarang (UNNES) students. This is in line with the application of UNNES as a conservation university that aims to support the protection, preservation and utilization of the environment as stated in the seven pillars of conservation. Although this course has been implemented since 2010, this does not have an effect on student attitudes, as does student participation in disposing of waste according to rules that are still limited. The survey was conducted on 385 respondents to analyze the attitudes and conservation behaviors of students who have taken PKLH courses, as well as analyze the relationship between attitudes and student conservation behaviors. Data was taken using a psychological scale of attitudes and behaviors. Attitudes are measured based on cognitive, affective and conative aspects, while behavior is measured based on the seven pillars of UNNES conservation. Results showed that the conservation attitude of students who had taken PKLH courses was included in the high category, while the conservation behavior of students showed a moderate category. Correlation test shows that there is a positive and significant relationship between attitude and behavior.

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INTRODUCTION

Universitas Negeri Semarang (UNNES) as a conservation campus seeks to establish mental attitude, responsible behavior and participation of UNNES citizens in terms of conservation in the form of understanding values, attitudes, and conservation behaviors through the seven pillars of conservation (Wibowo et al., 2017). Manifestation of UNNES efforts in fostering mental attitudes and conservation behaviors for students through conservation education and environmental education (PKLH) courses (UNNES MKH PLU Team, 2014). The purpose of the existence of the skin is to raise awareness of conservation behaviors such as disposing of trash that still needs to be improved (Ngabekti, 2013). PKLH courses are general courses taken in the first year of lecture. The syllabus and PKLH lecture event units in 2014 showed that competence was expected to be limited to the students' knowledge of conservation and environmental ethics (MKN PLH UNNES Team, 2014).

Conservation attitudes and behaviors show the concern of students towards the environment (Kollmuss & Agyeman, 2010). Therefore, PKLH courses are needed to change attitudes and behaviors to increase knowledge, skills, awareness about environmental values, issues that are emphasized on cognitive and affective aspects (MKN PLH UNNES Team, 2014). Vicente et al. (2013) explained that the knowledge of the environment owned by students influences conservation behavior. Conservation behavior is related to knowledge about an environmental problem and actions to be taken, mindset, positive behavior, and a sense of responsibility (Hines et al., 1987; Newhouse, 1990). Behavior is an embodiment of a person's character. Character is interpreted as a stable personal attitude as a result of the integration of statements and actions. Students who have the character of conservation will display conservation behavior.

This study aims to analyze the attitudes and behaviors of conservation of students who have taken PKLH courses, as well as the relationship between attitudes and conservation behavior. The targets in this study are UNNES students who have completed PKLH courses. UNNES graduates are prospective educators whose job is to teach and educate students into character generations. Therefore UNNES graduates must have the character of conservation to be a good example for students. This research was conducted to provide additional information in the preparation of tertiary curriculum and character-based curriculum so that the success of PKLH at UNNES increased.

METHODS

This research is a survey research using a quantitative approach. The survey in this study aims to explore and analyze the attitudes and behaviors of conservation students who have taken PKLH courses as well as the relationship between attitudes and conservation behaviors. The population in this study were all students of 2013-2016 UNNES who had taken PKLH courses with 385 respondents. Sample calculation uses a calculation formula based on determining error margins for survey research by Ary et al. (2010). Data were taken using a psychological scale of attitudes and behaviors modified from Hines et al. (1987), Lee et al. (2013), Frantz & Mayer (2014), New Environmental Paradigm Scale by Dunlap (1978). Attitudes include cognitive, affective and conative aspects, while behavior includes the elaboration of UNNES conservation pillars. UNNES conservation pillars developed as behavioral dimensions include biodiversity conservation, green architecture and internal transportation, non-paper policies, clean energy, waste treatment, conservation regeneration, and arts and culture ethics. Psychological scale data were analyzed using quantitative descriptive analysis. The criteria for attitude and behavior assessment are calculated according to the classification of

criteria based on theoretical mean by Azwar (2009). The relationship between attitude and conservation behavior was analyzed by correlation analysis using SPSS 16.0 software.

RESULTS AND DISCUSSION

Conservation Attitudes of Student

Attitude is determined by cognitive, affective, and conative levels (Azwar, 2013; Darmawan & Fadjarajani, 2016). Cognition is a representation of what is believed and affection is an emotional aspect, while konasi is a tendency to behave. Mann in Fishbein & Ajzen (1975) describes cognitive content as perceptions, beliefs, and stereotypes come from what is seen and known and become the basis of knowledge possessed. Cognitive aspects provided through PKLH courses constitute a process of understanding about conservation, while the affective and conative aspects in the form of behavior, values and commitments related to conservation (Team of MKU PLH UNNES, 2014). The conservation attitude of UNNES students obtained through a psychological scale shows a high level of category with an average score of 82,16 which is outlined in Figure 1.
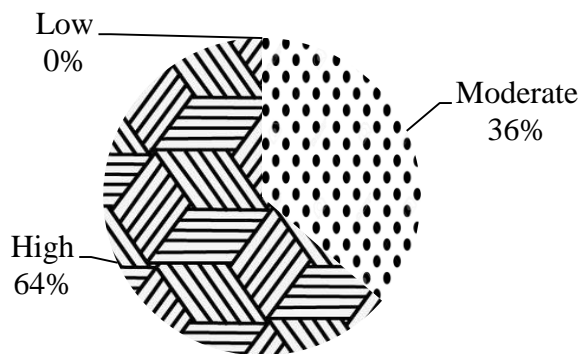

Figure 1. General description of the psychological scale score of student conservation attitudes (n = 385) *

Based on the results of the study as many as 64% of respondents had a high attitude score and the remaining 36% had a moderate conservation attitude score. The average results of 3 aspects of student conservation attitudes can be seen in Table 1.

Table 1. Average student attitude responses

Aspect	Average
Cognitive	2.71
Afective	2.78
Conative	2.86
	Classical average 2.78 (High)

Student cognitive aspects consist of two indicators, namely knowledge of issues and knowledge of action strategies. Janmaimool (2017) explains that knowledge about the environment can be predicted through knowledge of environmental phenomena, causes of environmental problems as well as knowledge about saving the environment. Affective aspects are reviewed through the locus of control indicator, while the conative aspect consists of environmental awareness, attitudes towards recovery and recycling, and environmental awareness and behavior.

PKLH courses facilitate students in developing these three aspects of attitude so that the conservation attitude of UNNES students is included in the high category. Cognitive knowledge is gained directly through lectures which are compulsory curriculum at UNNES. Materials about conservation have been prepared so as to develop student cognition. As for the affective and conative aspects, it is obtained based on habituation that is packaged through campus policies, environmental influences, as well as through observation assignments to places related to conservation activities such as compost houses and butterfly breeding. Cherdymova et al. (2018) explains that environmental awareness and care are formed from a training process on the environment.

Student's Conservation Behavior

Conservation behavior is a real human action that can be observed related to the management of sustainable use of natural resources based on 7 conservation pillars that have been developed by UNNES (Hardati et al., 2015). The preparation of psychological scales of conservation behavior is related to knowledge about an environmental problem and actions to be taken, mindset, positive attitude, and sense of responsibility (Hines et al., 1987; Newhouse, 1990) which are adapted to the 7 pillars of conservation of UNNES. The pillars of conservation include biodiversity, clean energy, paper policies, waste management, green architecture and internal transportation, arts and culture ethics, and conservation regeneration. General description of student conservation behavior is described in Figure 2.
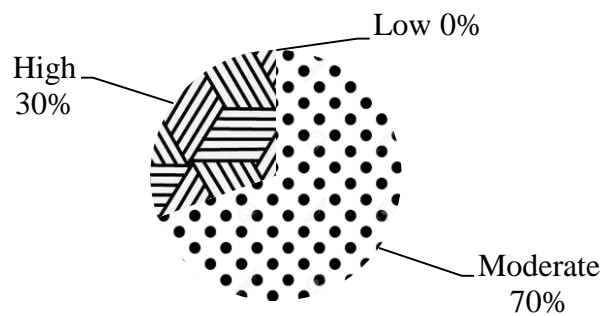

Figure 2. General description of the conservation behavior of UNNES students (n = 385)

Based on the results of the study obtained an average score of 192,9 UNNES student behavior included in the medium category. The results of this study support previous research by Dahriyanto et al. (2018) about the intentions of student behavior in terms of the orientation of individual values where the pro-conservation behavior of UNNES students reaches the medium category. Research by Sujana et al. (2018) also obtained a similar result where the behavior of caring for the environment of UNNES students reached the medium category. On average each aspect of the psychological scale of behavior is outlined in Table 2.

Table 2. Average response aspects of student behavior

Aspect	Average
Biodiversity	4.23
Clean energy	4.48
Waste treatment	4.08
Wireless Policy	4.49
Green Architecture and Internal Transportation	4.82
Culture and Art Ethics	4.62
Conservation of regeneration	4.24
Classical average	4.42 (Moderate)

Student responses tend to be neutral in responding to statements about behavior so that the behavior scores fall into the medium category. This shows that students understand that things related to conservation should be done but they do not do these things in a sustainable manner. Human behavior is influenced by customs, attitudes, emotions, ethics, power, persuasion and does not arise by itself but needs external stimulus (Darmawan & Fadjarajani, 2016).

Corelation between Conservation Attitudes and Behavior

Attitudes and knowledge have positive effects related to capabilities about the environment which will ultimately shape environmental care behavior (Castaneda et al., 2014). Based on the Pearson correlation test it is known that there is a positive relationship between attitude and behavior with a correlation value of 0,579 and a significance value of 0,00. Correlation coefficient values of more than 0,5 indicate in the medium category, and significance values of less than 0,05 indicate a relationship between attitudes and behavior. The relationship patterns of conservation attitudes and behaviors of UNNES students are shown in Figure 3.
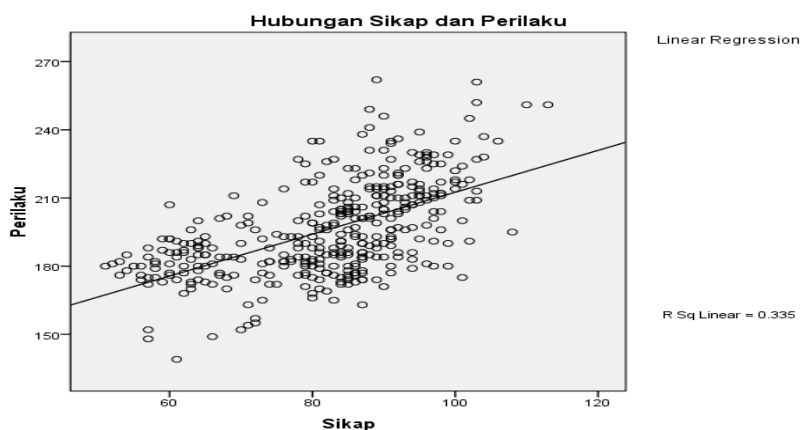

Figure 3. Scatter plot diagram of the relationship between attitudes and behavioral conservation

Table 3. Analysis of the coefficient of determination (R square)
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.579[a]	.336	.334	.37738

Predictors: (Constant), Sikap

R square value of the analysis of the relationship between attitudes and student behavior shows the contribution of attitudes to behavior by 33.6%. The weak relationship is caused by several other factors besides attitudes that can influence student behavior (Darmawan & Fadjarajani, 2016; Azhar et al., 2015). The weak relationship of conservation attitudes and behaviors in this research corroborates previous research by Sujana et al. (2018) which explains that the relationship between attitudes and behaviors of environmental care for UNNES students is in the moderate category and shows a positive relationship between the two.

CONSLUSION

Based on the analysis that has been done, it can be concluded that UNNES students who have taken PKLH courses have a high conservation attitude related to several aspects such as cognitive, affective and conative. While the conservation behavior of students who have taken PKLH courses is in the moderate category. Attitudes and conservation behaviors of UNNES students have a significant relationship as well as the direction of a positive relationship with Pearson correlation values which indicate a moderate relationship category with little contribution of attitudes to behavior change.

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