



Conservation - Minded Behavior of the Field Practice Participants on Automotive Engineering Education Program

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Abstract

Conservation – Minded Behavior of Field Practice Participant On Automotive Engineering Education Program. This study was aimed at figuring out: 1) conservation – minded behavior, 2) knowledge conservation, 3) achievement motivation, and 4) the support of conservation knowledge and achievement motivation simultaneously or independently to the conservation – minded behaviour of the field practice participants on automotive engineering education program, Engineering Faculty. This study was conducted in Mechanical Engineering Department, Engineering Faculty, UNNES and industry in Semarang in the year of 2017. 33 students were involved as the samples of this study. The conservation – minded behavior data were gathered using observation sheet, conservation knowledge data by test and achievement motivation data were gathered using questionnaire. The data were then analysed using descriptive statistics, multi regression and communality. The descriptive analysis showed that: conservation-minded behaviour of the field practice participants was mostly high, the conservation knowledge was mostly low and achievement motivation was mostly high. The multi regression analysis showed that the knowledge conservation and achievement motivation contributed 35.4% to the conservation – minded behavior. The communality analysis showed that conservation knowledge of the field practice participants contributed 15% to the conservation – minded behavior, and achievement motivation distributed 17.8% to the conservation – minded behaviour. The suggestion from this study was that the automotive engineering education should make an effort to improve the conservation – minded knowledge.

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INTRODUCTION

Universitas Negeri Semarang (UNNES) as a conservation – minded university implement conservation – minded education which aims to improve: mental attitude, behavior and participation of the students and staffs in UNNES in building national character in accordance with the principles of conservation. The expected benefit is that the alumni can disseminate the principles of conservation to their workplace (Anonymous, 2009). This means that graduates of UNNES are expected to implement conservation-minded behaviour.

Automotive Engineering Education Program of Engineering Faculty, UNNES aims to produce teachers at vocational school or instructors at training centers. The graduates of Automotive Engineering Education Program in conducting the task must have industry experience (Anonymous, tt). Therefore, the students of Automotive Engineering Education Program are required to join field work practice to acquire the knowledge / skills of industry standard including the implementation of the conservation – minded behavior. Based on the above description, it is necessary to conduct a study on the conservation – minded behaviour of the field practice participants in Automotive Engineering Department of Unnes.

According to Simon (2004), behavior includes selecting certain actions and most of the behaviour has its purpose and it is goal – oriented. The purpose drives the integration of behavior pattern. Knowledge has a role in shaping behavior which determines which consequences are inherent in alternative strategies. Referring to Simon's opinion above, it is possible conservation knowledge has a influence on conservation – minded behavior.

According to Mondy (1993), one of the needs which drives individuals and affects their behavior is the need for achievement called achieving motivation. The level of the need for achievement is in accordance with the effort to fulfil it. People with high – achieving needs tend to use more efforts to meet the needs. On the other hand, those who have low – achieving needs tend to make less effort to fulfil it. As a consequence, it is possible that the achieving motivation affects the conservation – minded behavior.

From the above description, the problem formulas are: (1) how was the conservation – minded behaviour of field work participants in Automotive Engineering Program, Engineering Faculty of UNNES? ; (2) How were the conservation knowledge and achieving motivation of the field work practice participants in Automotive Engineering Program, Engineering Faculty of UNNES? (3) Did conservation knowledge and achieving motivation (either independently or jointly) contribute to the conservation – minded behavior of the field work practice participants in Automotive Engineering Program, Engineering Faculty of UNNES?

According to Zimbardo and Gerring (1966), behavior is a real individual act to adapt to the environment in the context of a particular personality and social atmosphere. In this context, it is clearly illustrated that the individual's behavior is specific that each realization of an individual behavior varies. Behavior is highly dependent on mental development in addition to the influence of the environment. Behavior is the result of interaction between stimulus and response. All complex forms of behavior including habits, emotional thinking and reactions are formed from response and stimuli that can be observed and measured that we can predict and control one's behavior if we can control the stimulus (Burhus, 2000). From the above description, it can be concluded that behavior is a real activity influenced by the consequences of behavior, purpose, motivation and environment.

Conservation (environmental conservation) according to Odum (1971) includes: (1) guaranteeing the quality of the environment in the sense of its beauty, entertainment and also its products; (2) assuring the continuity of crops, animals, and materials to create a balance between harvest cycles with nature ability to renew itself. In addition, Chiras (1991) suggests that environment covers all biotic / abiotic factors which affect living organisms. Conservation is an effort to use natural resources power through improvement, efficiency of reusing used goods,

recycling and demand reduction. From the description of conservation and the environment, it can be concluded that the environmental conservation is an effort to preserve the environment to maintain its function as an as life supporting system in the form of either protected region or cultivation area. The efforts environment consist of efficient exploration of natural resources, maintaining living elements, preserving the diversity, revitalizing the damaged environmental elements to guarantee the quality of the environment in the sense of its beauty, entertainment and also its products, the continuity of crops, animals, and materials to create a balance between harvest cycles with nature ability to renew itself through increasing efficiency, reusing goods , recycling goods and reducing demand.

From the description above, conservation – minded behavior can be defined as the act of preserving of environmental elements to keep them functioning as a buffer of life through: (1) efficient utilization of natural resources / environment; (2) maintaining the environmental elements; (3) protecting the diversity of environmental elements; (4) rehabilitating damaged environmental elements.

According to T. Davenport and Larry (2000), knowledge is a collection of various experiences, information and values which are interconnected. The survival of such knowledge is not only stored in memory but also is involved in various applied processes. Robert Rich (1981) argues that knowledge is classified into five parts; knowledge: practical, intellectual, small-talk, spiritual and unintentional. Practical knowledge is used in employment – related decisions. Intellectual knowledge is used to answer intellectual curiosity in the field such as environmental protection and the economy. The small - talk knowledge is used to answer non-intellectual curiosities such as: humor and story. The spiritual knowledge is the knowledge of human relationships with religion and God. The unintentional knowledge is the knowledge of something beyond the attention of a person that he acquires unintentionally. From the various definitions above, knowledge is defined as everything that is known (information) about an object. In this case, the object is environmental conservation.

According to Johnson (1979), motivation is the tendency to try to achieve the goal. Crooks (1991) argues that motivation is a general term for every drive which makes one do something. On the basis of such understanding, the need underlies motivation. In addition, the purpose gives it direction. Motivation gives the drive to act and maintain the act with a goal as its orientation. Therefore, it can be concluded that motivation is a psychological condition that encourages one to carry out activities to achieve a goal. Basically human needs always evolve in accordance with personal and environmental conditions. When a goal has been achieved, the need for it ceases, while other type of needs or the similar need with a higher level arises. According to Maslow (1970), there are 5 basic human needs as the basis of motivation namely: (1) physiological needs; (2) loved and owned needs; (2) prosperity needs; (4) appreciation needs; (5) self – actualization needs. Mounly (1973) argues that there are two groups of human needs: (1) physiological needs includes: eating, resting, sex and so forth; (2) psychological needs, such as: the need to: love, to be accepted, for a status, to be appreciated and to affiliate.

The source of motivation consists of various needs. It creates diverse behaviors and goals. The level of priority for needs is in line with efforts to meet these needs. Therefore, students who have high achieving goals tend to use high effort to achieve it. On the other hand, students who have low achievement goals tend to use low effort to achieve it. One of the goals to achieve is to achieve more or exceed others. As a consequence, an achieving motivation is the impetus in a person to exceed others. It is corroborated by McClelland's (1961) opinion stating that achieving motivation is an attempt to achieve success, aiming to succeed in competition with a measure of excellence based on self-esteem / others which have been acquired earlier. Achievement is one of the psychological needs. The achieving motivation results in the motivation to achieve the goal.

McClelland (1993) argues that achieving motivation is intended not only to be better known in its environment, but also for inner satisfaction. Johnson (1979) corroborates that the achieving motivation is an encouragement to work better in relation to some of the standards of excellence. Human beings as an individual and social beings naturally have the impetus to show their actualization and to socialize and to have conformity with the society. In the process of fulfilling the needs, the achieving motivation is a factor that cannot be divided. Achieving motivation in human beings develops in an environment stimulating towards progress.

The development of achieving motivation is influenced by the intellectual development, which is related to the characteristics of the ability to gain insight and comprehension. People with high-achieving motivation have maturity to look at their strengths / weaknesses. In addition, he also has deep concern and participation in various possibilities of cultural flow and is able to learn from the experiences of others. The things learned are the realities of life that can be used as a form of anticipation of a future problem. The form of achieving motivation differs in different ages. This difference is determined by the development of a certain period of time, for example, the child's has the achieving motivation in the form of competitiveness, youngsters has achieving motivation which contains competition with oneself / others.

According to Hilgard (1969) people with high-achieving motivations have these following characteristics: (1) working on a less complicated / easy job; (2) choosing a moderate risk from a high risk; (3) fighting for social achievement; (4) being future-oriented; (5) having the impetus to complete the unfinished task; (6) having the tenacity in performing tasks that have certain difficulties; (7) choosing a partner on the basis of ability; (8) having a very prominent effort. According to Mounly (1973), there are six individual traits that have high-achievement motivations: (1) having a trust in dealing with tasks related to achievement; (2) being future oriented and is more able to handle themselves for future gratification; (3) choosing a moderate task; (4) do not like to waste time; (5) choosing a person who has the ability; (6) more powerful in doing the task.

From the above description it is formulated that the achieving motivation is the impetus to do better with these following indicators: (1) trying to excel; (2) working well; (3) being rational in determining success; (4) preferring challenges; (5) accepting personal responsibility for success; (6) preferring a job that can provide immediate feedback (7) preferring a work with a moderate risk.

The Contribution of Conservation Knowledge on Conservation – Minded Behavior

Knowledge conservation is the information known about conservation which preserves the function environmental elements to keep working as a buffer of life which covers: (1) efficient use of natural resources/environment (2) maintaining the environmental element; (3) protecting environmental diversity; (4) rehabilitating damaged environmental elements. The conservation – minded behavior preserves the function of the environmental element to keep functioning as a buffer of life through these following efforts: (1) utilization of natural resources efficiently; (2) maintaining the environmental element; (3) protecting the environmental diversity; (4) rehabilitating damaged environmental elements.

The participants of the field practice who had high conservation knowledge found it easy to do activities in their interaction with the industrial environment. Therefore, they found it easy to conduct these following activities: (1) utilization of natural resources efficiently; (2) maintaining the environmental element; (3) protecting the environmental diversity; (4) rehabilitating damaged environmental elements. Higher conservation knowledge leads to the implementation of conservation – minded behaviour of the field practice participants. From the description above, it can concluded that conservation knowledge contributed to conservation – minded behaviour.

The Contribution of Achieving Motivation to the Conservation – Minded Behavior

Achieving motivation is an internal drive that leads a person to achieve achievement in accordance with the standards of excellence. This impetus makes individuals work better and outperform their accomplishments or the accomplishments of others. The conservation – minded behaviour is defined as the real activity in his interaction by industrial environment. Therefore, In relation to field work participant, these following activities can be observed: (1) utilization of natural resources efficiently; (2) maintaining the environmental element; (3) protecting the environmental diversity; (4) rehabilitating damaged environmental elements.

One of the valuable human beings' potential is the impetus to outperform achievements of others. It can be done by inventing a new innovation. Therefore, In relation to field work participant, these following activities can be observed: (1) utilization of natural resources efficiently; (2) maintaining the environmental element; (3) protecting the environmental diversity; (4) rehabilitating damaged environmental elements. The higher achieving motivation leads to higher performance of conservation – minded behavior. From the description above, it can be concluded that the achieving motivation contributes to the conservation – minded behaviour.

The Contribution of the Conservation and Motivation Knowledge on Conservation Insights Behavior

The conservation knowledge that information is known about the conservation In relation to the joint P KL can be observed from principal: (1) use of natural resources/environmental efficient; (b)holding the integrity of the environment alike; (3) protect the diversity the environment; (4) rehabilitating damaged environmental elements. Motivation Achievement is an internal drive that leads a person to achieve achievement in accordance with the standards of excellence. This push makes Individuals try to work better, and outperform the achievements they have achieved or the accomplishments of others.

When a person has a high knowledge, then he knows various things and can change his behaviour easily. Similarly, if a person has a strong impetus to outperform the achievement of his or others, his effort to change his behavior change increases. The higher conservation knowledge and achieving motivation lead to the higher conservation – minded behavior.

Based on the description above, conservation knowledge and achieving motivation contribute to the conservation – minded behavior.

This study was aimed to determine: (1) the conservation – minded behaviour of the field work participants in Automotive Engineering Program of Unnes, (2) conservation knowledge; (3) achieving motivation; (4) the contribution of the conservation knowledge and achieving motivation to the conservation – minded behaviour of the field work participants in Automotive Engineering Program of Unnes both jointly or independently.

METHODS

At the 2017/2018 academic year, 110 students of Automotive Engineering Program of Unnes joined the field work practice which spread across 57 industries in Central Java and Yogyakarta. 33 people joined the field work practice in Semarang city (Anon, 2017). Therefore, the population in this study consisted of 110 students. The purposive sampling technique was used to obtain 33 students who joined the field work practice in Semarang. The independent variables of this study were the conservation knowledge and the achieving motivation which were collected with test and questionnaire. The dependent variable was the conservation – minded behavior which was collected using observation

The data were analysed using: (1) descriptive statistics to figure out: the conservation knowledge, the achieving motivation and the conservation – minded behavior ; (2) Multi regression

to figure out the contribution of the knowledge conservation and achieving motivation on conservation – minded behavior of field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang; (3) Communality analysis to figure out the contribution of the conservation knowledge and the achieving motivation independently to the conservation – minded behavior of field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang.

RESULT AND DISCUSSION

The descriptive analysis showed that: (1) there were 12 students having below average conservation – minded behaviour (36.36 percent) and there were 21 students having an average conservation – minded behaviour (63.64 percent). Therefore, most field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang had high conservation – minded behaviour; (2) the field work participants who had below average score on the conservation knowledge were 21 people (63, 64 percent) and there were 12 people (36 , 36 percent) achieving above average score. Therefore, most field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang had low conservation knowledge; (3) 12 people (36 , 36 percent) were scored below average and 21 people (63, 64) above average on achieving motivation. As a consequence, most field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang had high achieving motivation

The multiple regression analysis showed that: $F_{stats} > F_{table}$ {df (2: 30) p value = 0.05 (8, 218 > 3, 32)}. Therefore, the conservation knowledge and the achieving motivation jointly contributed to the conservation – minded behavior significantly with the amount of contribution = 35.4 percent.

The analysis of communalities found: (1) $F_{stats} > F_{table}$ (p value = 0,05, df = 1: 30) or 16,965 > 4,17. Therefore, conservation knowledge contributed to the conservation – minded behaviour independently with the amount of 15 percent; (2) $F_{stats} > F_{table}$ (p value = 0,05, df = 1: 30) or 8,266 > 4,17. Therefore, achieving motivation contributed to the conservation – minded behaviour independently with the amount of 17.8 percent.

The conservation – minded behavior of 63.64 percent field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was high. In addition, the conservation knowledge and the achieving motivation jointly and independently contributed to the conservation – minded behavior. It showed that conservation education class has resulted in the formation of the conservation – minded behavior, in addition to the contribution from the achieving motivation.

The conservation knowledge of 63, 64 percent of the field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was low. However, the conservation knowledge and the achieving motivation still jointly and independently contributed to the conservation – minded behavior. Consequently, conservation education class was important to improve the conservation knowledge. The achieving motivation of 63.64 percent of the field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was high. In addition, the conservation knowledge and the achieving motivation jointly and independently contributed to the conservation – minded behavior. It showed that the achieving motivation was important in forming conservation – minded.

CONCLUSION

- (1). The conservation – minded behavior of 63.64 percent field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was high.
- (2) The conservation knowledge of 63,64 percent of the field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was low
- (3) The achieving motivation of 63.64 percent of the field work participants in the Automotive Engineering Education Program of Universitas Negeri Semarang was high
- (4) The conservation knowledge and the achieving motivation jointly contributed to the conservation – minded behaviour significantly with the amount of contribution = 35.4 percent. It showed that conservation knowledge and achieving motivation could explain variations in conservation – minded behavior by 35.4 percent and were good predictors
- (5) The conservation knowledge contributed to the conservation – minded behaviour independently with the amount of 15 percent, meaning independently conservation knowledge could explain the variations of conservation – minded behaviour by 15 percent and was a good predictor
- (6) The achieving motivation contributed to the conservation – minded behaviour independently with the amount of 17.8 percent , meaning that achieving motivation independently can be explain variation of conservation – minded behaviour by 17.8 percent and was a good predictor

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