

Effect Of Training Level On Environmental Awareness Among Northern Border University Students: A Case Study In Saudi Arabia Related To Vision 2030

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Abstract: *The main purpose of this study is to examine the effect of the training level program on environmental awareness of students with different socioeconomic statuses in Northern Border University in the Kingdom of Saudi Arabia, in relation to Vision 2030. Efforts to expand the depth and scope of environmental training level programs that help students in the university to connect with nature often depend on the preparation and development of skilled environmental training. However, the effect of professional development on aspiring environmental training teachers has not been adequately explored.*

Keywords: *Environmental Awareness, Environmental Training, Management training, Human resource management, Vision 2030, NBU.*

1. INTRODUCTION

The environment can be defined as the surroundings in which all living and inanimate entities interact. Awareness includes cognitive and affective components (Ajiboye, 2017). As regards the environment, while the cognitive component of awareness provides agglomeration of the knowledge on the environment, the affective component provides a sensitive approach to all living and non-living beings. Environmental awareness is a highly complex issue because of the dependence and interdependence of many factors that also interact with each other. Social and economic factors and cultural practices are important to change people's awareness. Effective environmental education enhances environmental awareness. For this awareness to be memorable and comprehensive, a critical approach should be developed against possible interventions to the environment (Bányai et al., 2019)

Environmental training level involves the process of recognizing values and clarifying concepts to develop skills and attitudes necessary to understand cultural and biophysical surroundings. Thus, students' level of training in various environmental concepts and problems is important.

Environmental awareness is defined as the sum total of responses that people make to various thematic aspects of environmental training. In other words, environmental awareness refers to knowledge and understanding of facts and concepts related to the environment and consequences of various environmental problems such as pollution, population explosion, deforestation, ecological disruption, and energy crises. The environment has become the

concern of many academicians, intellectuals, scientists, policymakers, and governments worldwide. Widespread and systematic concern for environmental issues has grown globally.

Following the detrimental effects resulting from environmental degradation, finding a preventive way to slow down the effects and eventually sustainably mitigate long-term environmental damage is necessary. One of the best ways of preservation is by creating environmental awareness among society, especially among students, because they are future leaders, future custodians, planners, policymakers, and educators of and for the environment and its issues (Smolyanskiy et al., 2017).

Awareness of environmental issues has grown tremendously over the last decade as modern science and a more globally conscious population continues to enlighten to the connection between a healthy planet and livelihoods of people everywhere. For decades, that connection has arguably been undermined by population growth, urbanization, and land area loss, creating a potential divide between people and the natural environment. Through contact with and learning about natural areas, we can begin to mend this disconnection and restore humanity's balance with nature. Environmental training has the potential to facilitate awareness that leads to this connection. Exposure to nature, either through structured programs or unstructured play, has many benefits (Woodgate, 2018).

Environmental awareness is the ultimate driving force that stimulates knowledge on environmental matters. The acknowledgment that an environmental problem exists entails being more cognizant of the facts about the state of the environment. The power behind the awareness can be divided into three categories, namely, basic beliefs of an environmental problem, factual and scientific knowledge, and a commitment to solve environmental problems (Vicdan, 2020).

Wintz et al., (2020) stated that solving existing environmental crises requires environmental awareness and its proper understanding, which should be deeply rooted in the training system at all levels of school training. The existing curricula at the primary, secondary, and college levels provide many opportunities to make students aware of the environment. Awareness will make students more knowledgeable about environmental matters, resulting in the possibility of shaping their attitudes and behaviors. Responsible environmental behavior is the ultimate goal of environmental training, which is a key foundation of sustainable development (Vicdan, 2020).

Environmental education is seen as the main way to create awareness, emotion, and behavioral change in environmental issues by providing understanding that the environmental degradation caused by people can also be resolved by people (Punzalan, 2020) Environmental education is required to improve environmental awareness and environmental quality (Simamora & Fathi, 2019) Given that education can change behaviors, environmental education is described as an effective way to develop responsible citizen behaviors toward the environment Singh et al., 2019). An analysis of the literature shows that environmental education programs generally aim to change environmental behaviors by increasing environmental knowledge Smolyanskiy et al., 2019).

Knowing how people perceive environmental problems and how they behave against them for understanding individual, group, and social responses is important (Yucedag & Cetin, 2018) The development of environmental knowledge is a prerequisite for environmental education and ecological behavior. However, their practicability and memorability are very small. Therefore, to provide internalization of environmental education and to increase ecological behavior, considering this development holistically together with nature-based environment education is necessary (Pham et al., 2019). Training, such as nature protection education, environmental education, sustainable development education, and environment

and sustainability education are generally parallel to each other because they cannot provide success by themselves only (Pinzone et al., 2019).

Larijani, (2019) showed that environmental educators interested in environmental attitudes, changing emotions and beliefs should be targeted as the sources of knowledge that will form the basis of nature programs, rather than the knowledge itself. In this study, the importance of nature education as a source of information is emphasized. (Yucedag & Cetin, 2018) developed the Environmental Problems Awareness Scale and applied it to teacher candidates.

The level of awareness of teacher candidates varied according to the items in the scale, and the level of awareness was below the desired level. (Liu & Yang, 2020). conducted a study on university students and found that they were not insensitive to environmental issues and had a certain level of awareness, but they could not take an attitude toward personal measures taken to protect the environment. In the study conducted by (Mironesco, 2020) on 4th- and 6th-grade students, a relationship was found between nature-based environmental education and connectedness to nature, environmental knowledge, and ecological behavior. (Nazarenko & Kolesnik, 2018). found a difference between environmental awareness and behaviors in the analysis of environmental sensitivity scales applied to university students after nature education. Although the applied group is different, the results overlap with our results. Nature education has increased environmental awareness for all age groups.

Research has sought the benefits of strengthening ties to nature by identifying the harmful effects of keeping children out of nature. These benefits are directed towards physical, intellectual, and socio-emotional development. Learning about nature takes place in natural environments. However, nature activities can also be done indoors, such as by growing plants from seeds (Oliver et al., 2020) To be able to learn indoors or outdoors, educators must first stimulate love and curiosity. Thus, children are aware of their surroundings and actively involved to protect them. Well-designed facilities in natural environments organized with basic environmental information are needed to help people learn about plants and animals, as well as their properties and interrelationships [41]. In- and out-of-class education should be integrated, and children should be directed to nature experiences that allow them to explore nature. Introducing living and non-living beings in nature to children is also important; thus, they can grasp the place of human beings in this context during the nature experience (Özgen & Surer, 2020).

Socioeconomics is the branch of science that examines the relationship between social values and the economy and the effects of economic changes on society Pinzone et al.,(2019).

Social values that individuals can reach the general judgment of what is right, wrong, good, bad, beautiful(Punzalan, 2020) One of the social values in this definition can be stated as nature awareness. Awareness is a concept associated with consciousness Cheung et al., (2018). Consciousness is directly related to social values, whereas the relationship with the economy constitutes socioeconomic levels. For this reason, the socioeconomic status of people can affect their level of awareness. Owing to socio-economic concerns, parents' awareness can be reduced to ignore social values in everyday life such as the environment and nature, directly affecting children.

A review of previous research indicates a limited number of studies on the nature experiences of students (Mironesco, 2020). The absence of any research on determining the level of environmental awareness of elementary school students in Turkey proves the importance of the present study in terms of contribution to the literature. In addition, carrying out research with students from different socioeconomic status is important to determine the effects of socioeconomic status on environmental education. This research uses field-based education methods such as field trips and experiential learning, which stem from the constructive approach.

Environment Training and Environmental Awareness

Environment training is an approach to education in which the relationship between people and the environment is the focus. Environmental education is an effective process to develop an understanding of environmental awareness (Smolyanskiy, 2017). Its main objective is to educate pupils with respect to various aspects of the environment, its dimensions or components, various angles of the relationship of people and the environment, and the impact of human activities on the environment and vice-versa. Further objectives are to develop pupils' understanding with respect to various issues and problems related to the environment and how to resolve them; to empower pupils with skills and competencies that would prove helpful in realizing the objective of sustainable development; to infuse in pupils the concern, urge, and spirit of active participation in such activities that facilitate sustainable development; and to inculcate such attitude and positive etiquette that would promote a healthy, harmonious, and enriched relationship with the environment.

According to (Wintz et al., 2020), the objective of environmental education includes awareness, knowledge, attitudes, skills, and participation of people in protecting the environment "Environmental Education" as a multitude of processes and activities by which an understanding of the environment is developed and through which caring and committed responses are evolved. The discipline is concerned with knowledge, emotions, feelings, attitudes, and values (Abbas and Yucedag, 2018). "Environmental Awareness" is a state of acquiring an awareness of and sensitivity to the total environment and its allied problems (Wintz et al., 2020). People sometimes lack that awareness relating to a particular environmental issue and begin harming the environment. Several locality-based or habitat-specific environmental issues or problems exist, and people in these locations unknowingly indulge themselves in such activities that are harming the environment. The issue of "need versus greed" or "comfort versus luxury" in societies across the world also poses a question on environmental ethics.

Rationale of the Study

After the 1960s, when the environment evolved as the issue of prime and utmost concern in the international arena, many initiatives were made in this direction by all nations to ensure sustainable development. Acts and policies were framed, projects and programmers were launched, and special drives, campaigns, and activities were organized worldwide.

"Environment Training" as a subject was introduced at the school and university levels to educate students about the environment and the allied issues. However, we found that the environment is deteriorating day by day as the level of pollutants is increasing across the globe. Despite many such efforts from various governmental, non-governmental, and other agencies, some studies reported contradictory and contrasting results in this direction. Yucedag (2018) reported an average level of environmental awareness among teacher trainees in Teacher Training Institutes in Trichy, District Tiruchirapalli, Tamilnadu.

Researchers found average levels of participation in extension activities relating to the environment and average levels in various dimensions of the environment such as pollution, population health and hygiene, biodiversity, energy, and sustainable development. Abbas and Singh et al., (2019) also reported a higher proportion of university students possessing a high level of environmental awareness but a low level of participation in environmental activities.

Similarly, a high level of environmental awareness among secondary school students in Balikesir City, Du et al., (2018). Fairly good environmental awareness was reported by Çokçaliskan & Çelik, (2017). among college students Some researchers attempted to explore the relationship of level of environmental awareness with gender, area of residence, and stream of study of the students studying at various levels. As regards the relationship between

level of environmental awareness and stream of study, (Aragão & Jabbour, 2017) reported the effect of stream of study on environmental awareness. (Di Vaio & Varriale 2018) reported a significant difference between mean scores of arts and science students studying at higher secondary level in Paryavaran Jagrukta Prashnavali and found that science stream students have higher environmental awareness than did arts students.

Similar results were reported by Oliver (2020) reported that science students were found to have a higher awareness of biodiversity and its conservation than did other students Although Pham et al., (2019) reported that stream of study was found to be a significant source of variation in environment-related behavior of 12th-grade students in Kolkata, but contrary to the above results, the science students scored less than did arts students. Pinzone et al., (2019), in a study conducted on higher secondary students of Ahmedabad district, reported no significant difference in mean scores of environmental awareness ability of science and commerce students. Oliver (2020) found no statistical difference in environmental awareness of science and non-science students.

As regards the relationship of level of environmental awareness with area of residence, Du et al., (2019) reported that level of environmental awareness and active participation in environmental activities increases with family income and family education. Smolyanskiy et al., (2017) also showed that local environmental awareness was found only among students living in high socio-economic neighborhoods [In Ghosh, 2017]. Sharma (2018) in a study conducted on college students of Dharamshala (Himachal Pradesh) found a significant difference in environmental awareness ability of rural and urban students.

Mahbub et al., (2018) reported significant differences between rural and urban secondary school students in a study conducted in Kolkata on female B.Ed. students, reported that urban students were more aware of environmental issues than rural ones. Similar results were also reported by Xiong-biao & Yue (2017). that urban boys possessed higher levels of environmental awareness than did rural boys reported contradictory results. Furthermore, the locality of respondents (scholars) had no bearing on environmental awareness, These contradictory and contrasting results on the relationship of environmental awareness with the stream of study and area of residence and the personal concerns for the protection and conservation of environment in District Ambala of Haryana provoked the following questions:

Do undergraduate students of Northern Border University possess an adequate level of environmental awareness?

Research questions

This study addresses the following research questions.

1. What is the students' level of knowledge about the environment?
2. What is the attitude of the students towards the environment?
3. What is the relationship between the students' level of knowledge and their attitude towards the environment?

Hypotheses

The following hypotheses guided this study.

1. No significant relationship exists between students' level of knowledge and their attitude towards the environment.

2. RESEARCH METHODOLOGY

The population and sample of the study consisted of full-time environmental education students in the Northern Boarder University A total of 130 students constituted the sample for

the study. A questionnaire titled “knowledge and attitude of students towards the environment” was used. It was divided into two sections (A and B). Section A was used to elicit responses on the respondents’ knowledge of the environment. Section B, which used a four-point Likert scale ranging from strongly agree to strongly disagree was used to elicit responses to ascertain the students’ attitudes towards the environment based on three characteristics, namely, pro-environmental, anthropocentric, and socially responsible.

A test-retest method was used to assess the reliability of the instrument through the administering of the instrument to 20 students. A correlation coefficient of 0.82 was derived. This coefficient was considered adequate for the study. The researchers administered the questionnaires personally with two trained research assistants. Thereafter, the face-to-face method was adopted to ensure that the respondent filled out the questionnaire effectively.

3. RESULT

Research question 1: What is the level of knowledge on the environment among the students? Table 1a revealed the level of knowledge about the environment possessed by the students. The item “An interaction of plants, animals, and microorganisms with their non-living components is referred to as ecosystem” had a mean score of 0.85, which is greater than the criterion mean of 0.5. Thus, the students have adequate knowledge of the item. The item “Environmental education helps learners learn skills on how to destroy the environment” had a mean score of 0.91. The item “The Tbilisi conference, which gave environmental education international recognition, was held in 2005” had a mean score of 0.56. The item “The human disturbance of the natural environment leads to environmental degradation” had a mean score of 0.81. “Environmental education should only focus on present environmental situations” had a mean score of 0.82. “Conservation of nature helps to protect the environment from loss, waste, and harm” had a mean score of 0.92. “All buildings, monuments, and roadways make up the natural environment,” had a mean score of 0.60. “Sustainable development is meeting the needs of only the present generation” had a mean score of 0.80. “Gradual increase in the earth’s temperature is known as global warming” had a mean score of 0.92. “The environment is composed of only humans and animals” had a means score of 0.95. These scores showed that the students have adequate knowledge of each of the items.

Table 1a. Data on the level of knowledge of students towards the environment

S/N	Item	Mean	Standard deviation
1	An communication of plant life, wildlife and bacteria with their non- living mechanisms is devoted to as ecological unit	0.85	0.35
2	Conservational teaching assistances students acquire skills on how to terminate the surroundings	0.91	0.25
3	Tbilisi meeting that provided environmental education international appreciation was detained in 2005	0.56	0.49
4	The social commotion of the normal surroundings clues to ecofriendly deprivation	0.81	0.39
5	Environmental Teaching should only focus on current environmental circumstances	0.82	0.38
6	Management of nature aids to defend the environment from loss, unused and harm	0.92	0.27
7	All buildings, tributes , roadways make up the normal environment	0.60	0.49

8	Sustainable growth is meeting the wants of only present generation	0.80	0.40
9	Gradual increase in the earth temperature is known as global boiling	0.92	0.27
10	Environment is collected of single gentleman and animals	0.95	0.21

Table 1b. Summary of data on level of knowledge towards the ecosystem

N	Calculated Mean	Statistical mean	Standard deviation
130	8.18	5.00	1.58

The item “The course has increased my love and appreciation for nature” had a mean score of 3.48, which is greater than the criterion mean of 2.5. Thus, the students have a positive attitude to that item. The items “Environmental education helps to produce active and well-informed individuals,” “Despite our special abilities, humans are still subject to the laws of nature,” “Environmental Education gives me an edge over other colleagues in different course areas,” “The course helps to produce an effective and well-prepared workforce,” “Humans have the right to modify the natural environment to suit their needs,” “Plants and animals have as much right as humans to exist,” “The course shows me that humans were meant to rule over the rest of nature,” “Humans are severely abusing the environment,” “If things continue on their present course, we will soon experience a major ecological catastrophe,” and “The earth has plenty of natural resources if we just learn to develop them” all had mean scores higher than the criterion mean of 2.5, which served as a benchmark. This finding indicates a positive attitude towards the environment among the students. The item “The balance of nature is strong enough to cope with the impacts of modern industrial nations” had a mean score of 2.31, which is lower than 2.5. This result also revealed a positive attitude because the item was negatively constructed.

Table 2a. Attitude of environmental training students towards the environment.

S/N	Item	Mean	Standard deviation
1	The course has increased my love and appreciation for nature	3.48	0.64
2	Environmental Education assistances to produce active and well well-versed individuals	3.62	0.53
3	Despite our singular abilities, humans are still subject to the laws of nature	3.33	0.66
4	Environmental Education gives me an edge over other colleagues in different course areas	2.98	0.85
5	The course assistances to produce actual and well organized employees	3.32	0.63
6	Humans have the right to adapt the natural environment to suit their wants	2.81	0.96
7	Plants and animals have as much right as humans to exist	3.41	0.73
8	The course shows me that persons were meant to rule over the rest of nature	2.72	0.98
9	Humans are severely abusing the	3.40	0.73

	environment		
10	If things continue on their current course, we will soon experience a major environmental catastrophe	3.58	0.64
11	The earth has adequately of natural assets if we just learn to grow them	3.66	0.57
12	The stability of nature is resilient enough to cope with the influences of modern industrial nations	2.31	0.93

The summary of Table 2b below revealed a mean score of 38.64 and a standard deviation of 4.29 which is higher than the statistical mean of 24. This shows that EE students have a positive attitude towards the environment.

Table 2b. Summary of data on attitude towards the environment

N	Calculate mean	Statistical mean	Standard deviation
130	38.64	24.00	4.29

Research question 3: what is the relationship between the knowledge and attitude towards the environment?

Hypothesis 1: There is no significant relationship between the knowledge and the attitude of students towards the environment.

Table 3. Correlation coefficient showing the relationship between knowledge and attitude towards the environment.

S/N	Result relationship	Correlation r	p-value
1	Knowledge and attitude	-0.078	0.380 $p > 0.05$

The Table 3 shows a correlation coefficient (r) of -0.078, which reveals that there is little of no relationship between the knowledge and the attitude of the students towards the environment. This implies that the knowledge the students possess towards the environment does not influence their attitude to the course of study.

4. DISCUSSION OF RESULTS

The result in Table 1 revealed that the students have a high level of knowledge towards the environment in Nigeria because the calculated mean score is greater than the statistical average. The result is confirmed by Mrema (2019) in her study in measuring environmental literacy among students of the Faculty of Social Science at the University of Putra Malaysia. The study showed that more than 80% of all students had high level of knowledge towards environmental training.

In Table 2, the overall result revealed a calculated mean of 38.64, which is greater than the statistical mean of 24. The attitude items were divided into three components in the questionnaire (pro-environmental, anthropocentric, and socially responsible). The mean of pro-environmental was 13.42, which was higher than the mean score for anthropocentric (12.27) and socially responsible (12.95).

These scores, therefore, show that the students have a positive attitude towards the environment. This finding is in line with the study of Jekayinga and Yusuf (2017), who reported that respondents have a positive attitude towards the teaching of environmental

education at all levels of education in Nigeria. The positive attitude and high level of knowledge among the students signify that environmental education has considerable prospects in actualizing its goals and objectives in the country. Thus, positive environmental attitudes among citizens can be established.

Table 3 displays a statistical analysis to show the relationship between the students' knowledge and attitude towards the environment in Nigeria. The correlation coefficient derived showed a negative little or no relationship between the students' knowledge and their attitude towards environmental education in the country. This can be deduced as "r" derived is -0.078 . Therefore, this finding implies that the students' level of knowledge towards the environment is independent of their attitude towards the course of study. This result is in line with that by Aminrad, Zakariya, Haidi, and Sakari (2020), when they reported a weak relationship between knowledge and attitude towards environmental education among students in Malaysia. In this present study, the little or no relationship observed reveals that the knowledge possessed by the students does not influence their attitude towards the environment.

5. CONCLUSION

Environmental education as a course of study is becoming a fixture of Northern Border University. This study revealed that environmental education students in the university have a level of knowledge toward the environment and on the contents, goals, and objectives of environmental training and awareness in the university. They also possess a positive attitude toward the natural environment. Thus, this positive attitude and high level of knowledge reveal that the human and material resources in the institution of study have a considerable effect on the students. Little or no relationship was found between their knowledge and their attitude towards the environment. Thus, this study reveals that environmentally literate students are being nurtured to foster environmental education in the country, although further work is needed to encourage the students and promote the course of study in the country.

Recommendations

The following recommendations are proposed based on the findings from this study.

1. Effective cooperation should be cultivated between international, national, and local organizations dealing with environmental promotion with the various departments offering environmental education as a course of study in higher institutions in Saudi Arabia.
2. Awareness of avenues of environmental education towards the general public should be increased.
3. Environmental education content should be introduced into the general studies curricula in tertiary institutions in the country.
4. Research grants and scholarship opportunities should be provided for lecturers and students of environmental education in the country.
5. Environmental education should be implemented fully and effectively in higher institutions in Saudi Arabia.

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