

Chapter 46

Investigation of the Attitudes for Environment and Evaluation of Artificial Neural Networks

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ABSTRACT

This study was conducted to evaluate the attitudes of the students in a secondary school in Aksaray towards the environment according to some variables. The research group of the study was constituted of 426 students who were attending in the 1st, 2nd, 3rd, and 4th grade at a secondary school in the academic year of 2015-2016. The research done by using environmental attitude scale concluded that the secondary students have a positive attitude towards the environment. It was found that there was a meaningful difference according to gender, age group, father profession status, mother profession status. It was also concluded that students did not differ according to mother education level, father education level, grade level, family income level, and number of siblings variables. Similar evaluations were made with artificial neural networks. In this study, it has been shown that artificial neural networks can be used in the studies conducted in the field of education.

INTRODUCTION

The concept of environment is a very wide and diverse concept. Keleş and Hamamcı (1998) defined the concept of environment as the total of physical, chemical, biological and social factors which directly or indirectly affect human activities and live assets immediately or in a certain time. Özey (2001) defined

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the concept of environment as the environment in which human or any other living thing live. In another definition, it is stated that living beings are connected to and affected by vital ties and also affected by various ways (Güney, 2004).

Attitudes are not only a behavioural tendency or a feeling; they are also the integration of cognition, emotion and behaviour tendency. Attitude is a tendency attributed to an individual that regularly forms thoughts, feelings and behaviours about a psychological object (Kağıtçıbaşı, 2010).

The way to use the environment we live in more effectively and efficiently is to reveal a social structure of environmentally conscious individuals. This can be achieved by training in this context; environmental education is of great importance.

The aim of environmental education is to raise awareness of all segments of the society about the environment, to provide positive and lasting behavioural changes and to ensure the active participation of individuals. For this reason, an education method that will enable individuals to participate actively in environmental issues, react to negativity, understand the fact that individual interests cannot be considered apart from social interests, and the education system aiming at public participation will improve the thinking and decision-making power of the masses. Environmental education should not only provide information and a sense of responsibility, but also influence human behaviour. The aim of the efforts to protect, develop and improve the environment is to provide opportunities for living in a healthier and safer environment. The desired and successful results in terms of the environment are directly related to the human element. This is possible by educating and developing people in the environment. Human awareness and development can be achieved by providing the necessary knowledge and skills (Ministry of Environment and Forestry, 2004; Ünlü, 1995).

Secondary education provides the individual with a lot of cognitive skills such as literacy, problem solving and the basis for success in life. These are extremely important skills in the relationship between the environment and the individual. The knowledge, skills and values to be gained in secondary education constitute the basis for upper education steps. The aims of the secondary education were grouped under four headings: Personal, human relations, economic life and social life. When the sub-objectives under these four main topics are examined, it is seen that there are some goals related to ecological culture, environmental awareness, environmental attitudes and behaviours, cleanliness and thriftiness. Education in secondary education; It is aimed to educate individuals who love and respect the nature, protect plants and animals, are aware of the natural beauty around and endeavours to improve the environment, are sensitive to environmental problems, have environmental awareness (Vural, 2003).

Questionnaires also became useful tools for studies with low budget, helping them plan correctly the next semesters without excessive spending. It was very valuable to predict the next prefer that each student would choose, and it could be achieved by using questionnaires. In that direction the contribution of Artificial Neural Networks (ANNs) was remarkable (Matzavela et al., 2017). ANNs are directed graphs with weights and they are used, apart from education, in weather forecasting, predicting earthquakes, calculating the financial risk of a loan, in automatic pilots, in stock exchange.

The purpose of this research is to be able to make an effective prediction regarding the attitudes of the students in a secondary school in Aksaray towards the environment according to some variables with ANNs which is used as an effective prediction method in various sectors and as an alternative for traditional methods in the field of education.

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