

# Investigation and monitoring the perspective V.T.I trainees have, regarding significant environmental problems aiming to the adults education

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## Abstract

Environmental education is a learning process that enhances citizens' knowledge and awareness about the environment and associated challenges, develops the necessary skills and experience to meet these challenges, and fosters attitudes, motivations, and commitments so that the well-informed citizens are able to make accurate decisions and take responsible action (UNESCO, 1978). This paper aims to analyse and monitor the perspective V.T.I trainees have, regarding significant environmental problems and environmental education in general. Based on this research, the view of respondents gained from previous levels of education is listed, as well as the evaluation of environmental education.

**Keywords:** Environment, Education, Environmental data analysis, Vocational Training

## 1. Introduction

Environmental education responds to the social demand for addressing the ecological crisis and is geared to the exploration and in solving environmental problems. It is based on a multidisciplinary and interdisciplinary knowledge system and proposes depending on the education level, multidisciplinary, interdisciplinary and multidisciplinary model of integration in our educational system. It may, as in the emotional domain, modulate individuals and social groups into new attitudes, new values and commitments necessary for building a sustainable society. It contributes to the development of skills which enhance the capabilities of all stakeholders to better understand and tackle environmental problems. It creates and configures bidirectional conditions of the

school with the local and wider community. It enables trainers to offer their students new interesting methodological approaches and techniques, leading to self-motivated and experiential learning. It consists of a permanent and lifelong education always future-oriented (Education for Sustainability). Purpose of this study is to investigate and clarify the level of knowledge of vocational trainees around environmental issues, their opinion and thoughts as well as positions about environment while comprehending the nature and importance of environmental education in vocational training and adult education

## Literature review

Adult education has long represented a tradition of learning outside the confines of formal education and schooling. Places and spaces of learning such as neighborhood houses, museums, community gardens, adult and community education centers and libraries are all sites of education, although not widely recognized as such (Ollis and Hamel - Green, 2015). UNESCO, the intellectual arm of the United Nations, has been developing various programs to address environmental challenges since the 1970s. UNESCO called for the field of education to focus on new visions and practical actions to address environmental challenges. The goal was to arm the public with knowledge and skills, attitudes and motivation to work toward solutions for current problems (Malone, 2004 in Dentith, 2014). It has been suggested that a positive human-nature relationship is essential for countering today's environmental problems. Prior environmental education research has focused largely on knowledge or attitudinal outcomes, and few studies have examined

the ability of environmental education programmes to promote connectedness with nature (Liefänder *et al.*, 2013). Parallel but separate growth has also occurred in the area of environmental adult education, resulting in a substantial network of practitioners and activists in this

field. However, we are only at the beginning stages of theorizing our understanding of environmental adult education (Walter, 2009 in Groen, 2016). In an attempt to address this shortcoming, Walter (2009 in Groen, 2016) provided an overview of the emerging philosophies of environmental adult education, drawing on the five major philosophical frameworks used to describe the broader field of adult education (Elias & Merriam, 2005 in Groen, 2016): liberal, progressive, behaviourist, humanist, and radical philosophies. Environmental education is a critical tool to counter environmental problems with the goal of protecting and conserving the environment (Potter 2010 in Liefländer *et al.*, 2013). An important focus of environmental education is to encourage people to understand, appreciate and implement sustainable practices (IUCN, UNEP, and WWF 1991 in Tilbury 1995 in Liefländer *et al.*, 2013). The field of environmental education is dynamic and complex (Palmer 1998 Liefländer *et al.*, 2013) and many definitions have been given. We refer to the Belgrade charter (UNESCO-UNEP 1976 Liefländer *et al.*, 2013) which states that: 'The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current environmental problems and the prevention of new ones.' Therefore, solving the problem of preserving the environment and preventing environmental crisis is largely determined by the human factor - the ideology, culture and environmental awareness of people. In connection with this, it's necessary to give a lot of attention to environmental education and training (Derevenskaia, 2014).

## 2. Methodology

Turning our page now on methodology it would be essential to comment that we conducted a descriptive non probability (convenience sampling) survey through personally administered structured questionnaires among 119 vocational trainees who had taken environmental classes during their previous or current study as well as trainees that are exclusively specialised in this field ie Forest Protection Technician. This method was used because of its simplicity and the fact that it requires the least possible knowledge about the population than any other method (Freese 1984, Asteris, 1985, Matis, 1988, Damianos, 1999 and Kalamatianou, 2000). The sample was of both men (53,8%) and women (46,2%) with a range of age starting from up to 17 y.o. with the majority been around 19 y.o. (26,9%) and reaching over 48 y.o. and with an educational level starting from high school graduates (63%) up to university graduates (16,8%) due to the diverse educational background of vocational trainees. As far as V.I.T directions the sample consisted of vocational trainees from Tourism Management and Economics Executive (41,8%), Maritime Management and Economic Executive (10,8%), Forest Protection Technical (22,6%), Archaeological and Museum Guards (16,3%), Tourism Units Technician (10,5%) directions. Therefore, the sample can be considered to approximate the properties of random representative sample. Reservations regarding generalization however maintained due to the fact that over

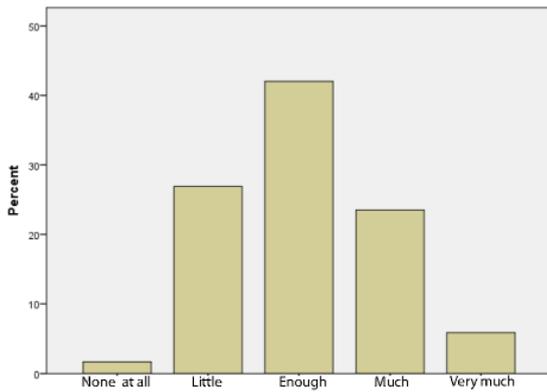
time the "quality" and the general characteristics of students entering vocational training may be differentiated. This research method has little cost and provides representative samples (Daoutopoulos 2004). As a research tool a questionnaire was used which is an important means of research into social sciences (Chasanagas, 2010). The questionnaire includes questions about general knowledge on the environment and environmental issues, importance evaluation of environmental issues, source of knowledge about environmental issues, environmental education and its obligatory status or not plus its evaluation while being occupied as well with important environmental education issues or the knowledge of terms such as sustainable development and environment. Closed questions were selected, questions that are answered while structured in advance, for ease of coding (Makrakis 2005). These questions are the research variables. The period of survey was between 01/01/2017 – 15/02/2017 and the authors utilised as an Analysis Method the Likert Scale rating the majority of 34 items while Data Analysis Method was conducted through the use of IBM SPSS 20.

### 3.1 Limitations

The nature of this study surfaces a number of obstacles related to collected data accurateness as well as for achieving its research goals. One first could be that of researchers must pay particular attention at correlating environmental education and adult life long learning, since, failure to do so, will hinder research progress and result in poor conceptual developments. In addition to this latter the embryonic as well as limited approach of the relevant subject in Greece both in academic and governmental level presented with a second limitation. A third and final reason, the diverse perception around environmental issues and adult learning in vocational training system and among vocational trainees.

## 3. Results and discussion

Moving along and getting in depth of this study, it would be essential to remember that purpose of this study is to investigate and clarify the level of knowledge of vocational trainees around environmental issues, their opinion and thoughts as well as positions about environment while comprehending the nature and importance of environmental education in vocational training and adult education. From the sample of 119 vocational trainees that answered the relevant questionnaire, authors of this study, taking into consideration its purpose ended in some results. Discussing the finding of the previous presented methodology, it would be of significant importance that the 70,9% of the sample answered from 'Enough' to 'Very much' the question over the knowledge they have about the environment and its issues (Figure 1).

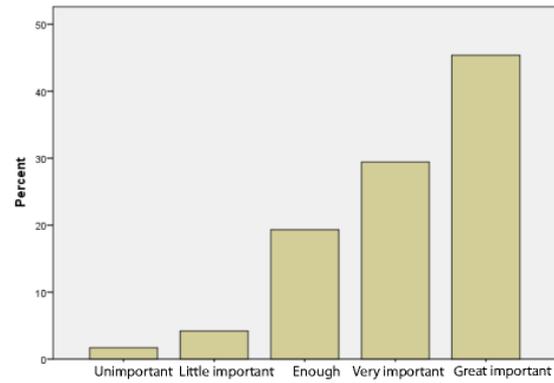


**Figure 1.** Environmental knowledge

At this point, after stating that the majority of the respondents have general environmental knowledge, it was a will of the authors to describe more in depth the opinions and thoughts of the respondents into evaluating several environmental issues about their importance. Findings showed that issues like global warming (57,1%), ozone destruction (56,3%), atmosphere and water pollution (53,8%), forest destruction (54,6%), toxic waste disposal (49,6%), genetic modified products (38,7%) and use of renewable energy (37%) are of great importance for the respondents. These percentages show once more how important is the introduction of environmental education into vocational training but furthermore the existing level of knowledge and interest of the trainees over environmental issues.

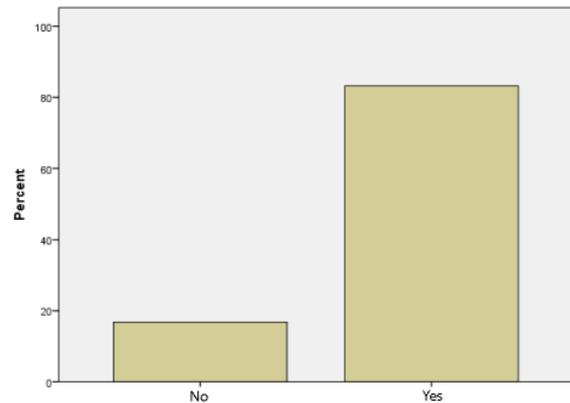
Demonstrating such level of knowledge regarding environmental issues, authors of this study were stimulated to add a quality question from which means of information the respondents get the majority of information around environmental issues. Relevant finding were disheartening proving the environmental issues and generally environmental education or practice is not provided from regular channels and when provided are of minimum or none percentage such as school education (37% little knowledge) university education (90,8% none), family (65.5% none), newspapers (86,6% none), discussions among people (64,7% none) and work environment (92,4% none). The only means worthy presenting is that of the internet where the 49,6% gets much info related to environmental issues.

Turning page into this analysis it would be of great importance to mention that 93,9% of the sample noted that environmental education is 'enough important' up to 'very important', proving that environmental awareness in gradually increased and people want to have relevant knowledge or taking classes into the educational system about the environment. (Figure 2)



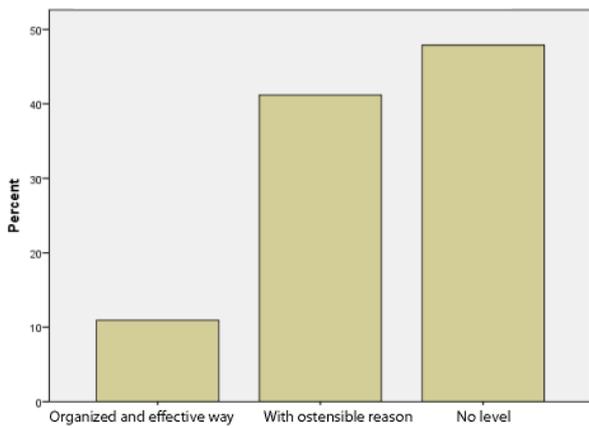
**Figure 2.** Importance of environmental education

Adding to this latter, it is noted that 83,2% of the sample said that environmental education should be obligatory stating in a few words its importance into the education system. (Figure 3)



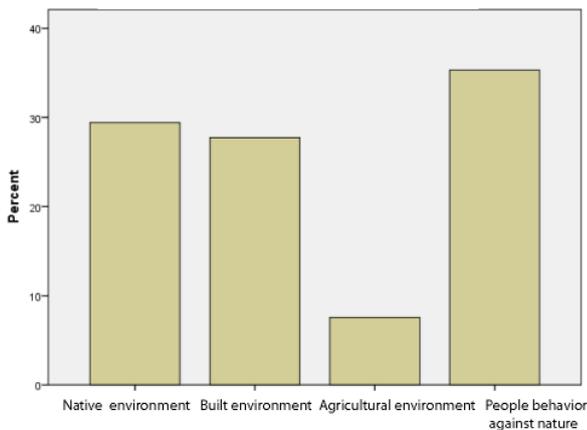
**Figure 3.** Obligatory environmental education

On the contrary of the findings about the importance and obligatory state of environmental education the next figure presents the reader with some alarming facts over the evaluation of the environmental education level, such as 47,9% believing that there is no level or 41,2% that is being conducted with ostensible reason. (Figure 4).



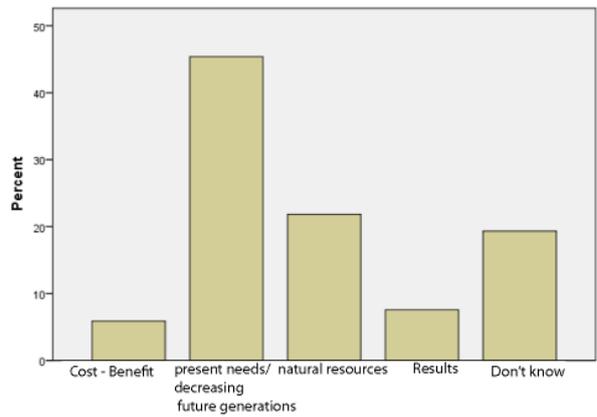
**Figure 4.** Environmental education level evaluation

Moving along this study, the reader can come across with some interesting views about environmental issues with greatest interest for the trainees. The 42% believes that of great importance are environmental issues that are occupied with human behavior against nature, followed by 35% and 33% respectively for Native and Built environment. With this figure it is pointed out the sensitivity and acknowledgement of trainees that the human factor is playing crucial role in harming the environment and what is the role for humans into preserving it. (Figure 5)



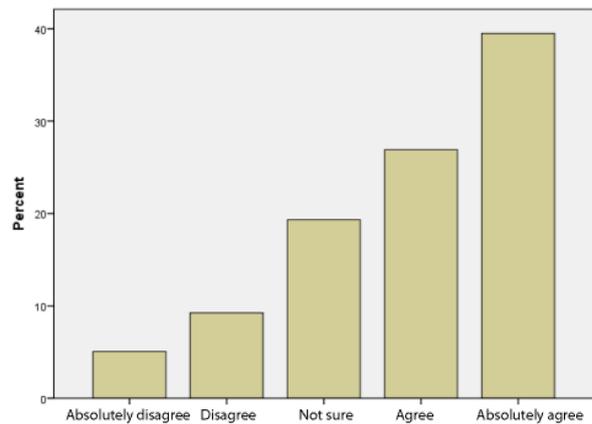
**Figure 5.** Environmental issues of great importance

After getting the results and presenting the reader with the most important environmental issues, authors of this study, thought that it would be essential to ask about sustainable development and observe what is perceived by the respondents. 54% said that sustainable development is the one that satisfies present needs without decreasing need satisfaction capability of future generations while 26% stated that is the one utilising in the most possible way present natural resources. (Figure 6)



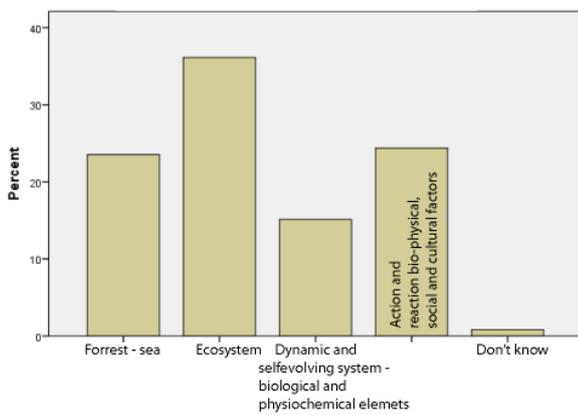
**Figure 6.** Sustainable development

On the other hand, as we can see in Figure 7, 66,4% of vocational trainees responded that they 'Agree' in general on the impose of more strict legislation in order to solve environmental issues pointing out the necessary actions that local, regional and government authorities that are in need.



**Figure 7.** Stricter legislation for solving environmental issues

Finally, when asked in the questionnaire over 'Using the word environment, what comes into mind', 43% answered 'Ecosystem', while 29% 'a combined action and reaction bio-physical, social and cultural factors'. 28% 'Forest - Sea' and 18% 'a dynamic and self-evolving system - biological and physiochemical elements' overall presenting the reader with the fact that trainees are informed and demonstrate adequate knowledge and clear thinking around what is environment. (Figure 8)



**Figure 8.** What comes into mind when using the word 'environment'

Drawing a synopsis into this discussion, it should be underlined that analysis and monitoring of the perspective V.T.I trainees have, regarding significant environmental problems and environmental education in general is of quality level and with a continuous need of getting information regarding environmental issues leaving a promising future, if properly designed and implemented, for environmental adult education.

#### 4. Conclusion

Environmental adult education (E.A.E. is a unique field of practice but it is better explained through the combination of different theories from different fields including adult education. Basically, it is defined as a hybrid of environmental education and adult learning theories to provide meaningful experiences to the learners and to bring about genuine environmental change (Haugen, 2010). Race, poverty and gender are important lenses through which the theory and practice of adult education formulate. Environmental adult education adds another crucial lens, an ecological lens through which we can better address the environmental problems and give voice to the needs of those who are most affected. Environmental degradation is an issue that relates to culture, in politics, in feminism, economy, affecting tribes, workplaces and youth because is a global affair. This paper tracks down the key issues on the introduction and the application of environmental issues as an efficiency factor in adult education. The literature review indicated that there are many opportunities from the leverage of environmental adult education. However, there is a need to proceed with a further research, which will be a qualitative research among educators so to examine this case. Moreover, it is essential that modernization of education design and module specifications concerning introduction of environmental education in combination with reform, completion and consolidation of vocational training subjects towards this field is to be considered. Lastly, introduction of environmental education into the school system presents as an obligatory factor for creating environmental sensitive and knowledgeable people against

the great battle of preserving our future. Finally, purpose of this study was to investigate and did clarify the level of knowledge of vocational trainees around environmental issues, their opinion and thoughts as well as positions about environment while comprehending the nature and importance of environmental education in vocational training and adult education in general.

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