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Historical development of non-formal environmental education in Turkey

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Abstract

The article discusses the periods of environmental education development in connection with internal social and international global influences, mainly the effect of the First United Nations Conference on Human environment in Stockholm 1972, the 1992 Earth Summit in Rio de Janeiro and the 2002 Earth Summit in Johannesburg. The article pays attention to the impact of the social background and the role of science and pedagogical research on the different stages in the curriculum and textbook development. The content of school subjects and educational technologies has also evolved towards student-centered interactive education in and out of school. From past to present, there have been many institutions in Turkey which provide environmental education. Some of these organizations most of whom work on a voluntary basis providing only informal training are: The Turkish Association for the Conservation of Nature (TTKD) 1955, World Wild Fund (WWF-DHKV) 1975, Research Association of Rural Environment and Forestry (KIRCEV) 1989, Directorate of Intramural Physical Education and Scouting (OBESID) 1989, The Foundation for the Protection and Promotion of the Environment and Cultural Heritage (CEKUL) 1990, The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA) 1992, Scouting and Guiding Federation of Turkey (TIF) 1992 and Nature Society, 2002. Although there are lots of studies carried out regarding the environmental education in Turkey, the studies regarding the topic started in real terms in 1999. The environmental education programs, conducted outside schools and the college systems, have been in operation in Turkey since 1999 and are carried out in collaboration with The Scientific and Technological Research Council of Turkey (TUBITAK), Universities, the General Directorate of National Parks and Environmental Protection and local authorities. The environmental education programs have 2 levels: theory and implementation. On the 'theory' level, experts in the field disseminate their knowledge of the features of the ecosystems of the protected sites and surrounding areas. On the 'implementation' level, all these features are studied in the field and the problems are identified and solutions are proposed. The target population of this environmental education project consists of teachers, scout leaders and those in post-graduate study. The program aims, through its teachings on nature, to popularize science among a wider population and to provide ways for the existing accumulation of knowledge to be used and implemented by this population. The program has provided a developmental framework for implementing field work and similar environmental education projects in the regions concerned and has brought about a more comprehensive and higher quality standard of education in the participating institutions. It is hoped that in the future the programs will reach more people and instill a lifelong desire, curiosity and motivation regarding ecosystems and the environment. Still there are many unsolved problems in environmental education.

Keywords: Non-formal environmental education, nature education schools, science school, Turkey

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1. Introduction

The units of location which living beings are connected to with vital ties, which they affect and be affected by, are called the habitat or environment of these living beings (Atasoy, 2006).

Human beings need lifelong learning. This need is extremely visible in the topic of environment because both the environment and our approach towards the environment constantly change.

Effective environmental education is possible with mutually supporting and complementing “formal” and “informal” program implementations. An efficient environmental program requires children to be outdoors regularly. As the individuals learn the processes of ecosystems and the negative and positive effects of human activities on the sustainability of these eco-systems, they develop more responsible behaviors towards the nature. According to ecological philosophy, human beings find themselves in the nature, identify themselves with the nature and learn how to consider the requests and interests of the nature while contemplating their own. The meaning of natural environment can be learned while interacting with it. According to this approach, environmental education is important when undertaken in natural environments since that will increase interest and will create an outlook towards nature through empathy (Atasoy, 2006; Ozaner, 2004; Palmberg & Kuru, 2001).

Change in the nature through natural or artificial means will affect all living beings in that environment at the same rate. Although the effect of individuals on nature was limited until the industrial revolution, that relationship was destroyed by human beings in their own favor. Later advances in agriculture and medicine brought increases in population and resultant constraints on the nature by human beings. These constraints have been observed in the form of rapid increase in population, technological improvements, urbanization and especially unplanned urbanization and have accelerated the destruction process of the natural balance. All these negative developments have caused singular or collective movements to counterbalance the effects (Güler, 2009).

The term “environmental education” was first used in 1948 in the International Union of Conservation of Nature (IUCN) Conference in Paris and was not employed again until mid 1960s. The process starting with substantial mutual understanding regarding the aims and objectives of environmental education in UN Human Environment Conference in Stockholm Sweden in June 1972 has continued by developing through various international meetings.

An Inter-governmental Environmental Education Conference was held by UNESCO in Tbilisi, Georgia in 1977. The conference highlighted that a successful environmental education “should create awareness and responsibility towards the environment in individuals and make them more educated, more experienced, more skilled and participatory in this regard” (UNESCO, 1977).

Undoubtedly, one of the most important tasks of the society to provide sustainable existence is to equip the new generations with related attitudes, values, knowledge and skills regarding the conservation of environment. Environmental education is of vital importance in this regard. Environmental education is related to ethics and actions and it is not only a topic to be learned but a way of thinking and behavior (Davis, 1998). Environmental education aims to provide individuals with an understanding of ecological balance and their roles in this balance, to help them develop opinions on how to live in harmony with the planet and to equip them with the required skills for efficient and responsible participation (Erol & Gezer, 2006).

Ozaner who defines outdoor environmental education as “learning the language of the nature” contends that there are well established changes in the outlook of participants to the universe, existence and events as the result of education provided in the nature even when sometimes the duration of the education is very short. Ecologically based environmental education is one of the best methods that help individuals learn about science and environment. Well planned field studies outside school not only facilitate student understanding of the world but also help them to acquire positive attitudes and values towards nature. Many researchers emphasize that nature education, even in short durations provides opportunities for individuals to gain information about natural processes, increases their familiarity towards nature, renders them more sensitive and aware and contributes to their independence, creativity and critical thinking (Ari & Soykan, 2009, Ozaner, 2004, 2005, 2007; Palmberg & Kuru, 2001; Phenice, 2006; Soykan, 2006; Soykan, Atasoy & Kostova, 2012).

2. Historical development of non-formal environmental education in Turkey:

The first real step in environmental education in Turkey was undertaken in the “Turkey Environmental Education Seminar” in 7-8 June 1990 hosted by the Undersecretariat of Environment” with corroboration of UNESCO-UNEP. The seminar highlighted that “environmental education starts with birth and continues throughout life as an education process that requires implementation” and it stressed that education is a lifelong process for all ages. The seminar was followed by the 1st Environment Council in 18-21 September 1991 in Ankara organized by Ministry of Environment and Urban Planning. It would not be wrong to state that all these efforts were maintained towards formal environmental education in Turkey. However, non-formal environmental education aiming to provide individuals with the necessary attitudes and behaviors required to transfer the rational use of nature to other generations has always been accepted to be secondary to formal education. Although it was decreed in the Regulations for Non-Formal Educational Organizations of the Ministry of National Education that methods such as courses, seminars, conferences, panel discussions, presentations should be used for programs consisting multi subjects, the practice shows that educational activities provided directly for environment comprise of such method to a limited extent and this type of education and training is not sufficiently used and disseminated.

Work in the field of environmental education in Turkey is carried out with collaboration of Ministry of Environment and Urban Planning and the Ministry of National Education. The education provided by the Ministry of National Education, Physical Education, Sports and Scouting Department focuses more on creating a national awareness in a hierarchy, based on multi-disciplines and issues such as doing sports rather than focusing on teaching the language of the nature.

The environmental aspects of activities such as camping is limited mostly to “orienteering” and topics such as erosion and forestation focused on by TEMA and issues such as learning the language of the nature is not employed functionally.

It is possible to note significant efforts regarding the development of non-formal environmental education in the works of NGOs. These NGOs have not stayed indifferent to developments in countries such as USA, EU countries (especially form UK), Japan, Canada, Australia and New Zealand and have provided environmental education programs related to their objectives and presented the first examples of non-formal environmental education. However, since these well-intentioned efforts of the NGOs lack the effective support of central and local governments they have proved to be insufficient until the start of the 1990s.

The paragraphs below include NGOs and Public Organizations that have contributed to the historical development of non-formal environmental education in Turkey and a critical assessment of this development is provided.

Non-formal environmental education activities of The Turkish Association for the Conservation of Nature (TTKD): The NGO with its central office in Ankara was founded in 1955 when concepts such as World Environment Day, Biological Diversity Day, World Day was not on the agenda and environmental problems were not fully comprehended. The NGO which publishes the magazine “Nature and Human” every three months have hosted many non-formal environmental education activities. The NGO with awareness raising works in the field of non-formal environmental education such as “Development of biological diversity and environmental conservation awareness in teachers and local administrator” Project and “professional tour guides training seminars” unfortunately has not reached large target groups.

Non-formal environmental education activities of The Turkish Environmental Conservation and Greening Association (TÜRÇEK): one of the first environmentalist organizations in Turkey, TÜRÇEK was founded in Istanbul in 1972. There are various hands-on training activities focusing on conservation of environment in addition to many activities of the NGO. It is one of the NGOs contributing to the process by activities such as “Hot zones in the Black Sea and the participation of the public project”, “environmental education project” and “forests at schools projects” undertaken by participation form various sectors.

Non-formal environmental education activities of World Wild Fund (WWF-Turkey): WWF-Turkey (World Wild Fund) was founded under the Association of Conserving Natural Life and received the title of WWF-Turkey in 2011 as the Turkish National Organization of WWF. The establishment of Association of Conserving Natural Life

goes back to 1975 by a group of artists and thinkers. With its 35 years of experience WWF-Turkey undertakes its activities in the fields of the conservation of the nations' nature, changes in our life styles and fight against climate change.

The Fund with its center in Istanbul targets two main groups in its environmental training program: the first group is comprised of the educators in schools which will train the youth who will take over the responsibility of conserving the environment in the future. The training of an educator may result in thousands of students who will be sensitive and kind to environment in the long run. When we add the number of parents, friends and neighbors of the students to the count, the number of positively affected individuals will increase highly. Hence the training of educators are given priority in the project. The second targeted group is comprised of NGOs, academicians and local governments who are responsible from or interested in environmental conservation. The activities of WWF-Turkey which aims to affect and guide the public regarding environmental education in the last 15 years have been instrumental in the changes in the environment in Turkey

Non-formal environmental education activities of Research Association of Rural Environment and Forestry (KIRCEV): The Association founded in Ankara in 1989 has brought many members from different walks of life together such as forestry, agriculture, food, geology, chemistry, machinery engineers, sociologists, economists, landscape architects, bankers, teachers, insurance agents, managers, ornithologists, psychologists and housewives. The main aims of the Association are the identification and solution of rural environmental problems starting with deforestation and doing research and providing educational activities and publications in order to create public opinion in the light of the research and proposed solutions. "Dendrology and School of Forest Ecology" and "School of Soil Ecology" are best practice examples to non-formal activities provided in the framework of educational activities. The Association hosted a workshop in 2005 in Ankara in order to provide a basis for nature education activities geared towards children and to raise awareness in the topic and the later activities of the Association were planned in the light of the workshop results.

Non-formal environmental education activities of Directorate of Intramural Physical Education and Scouting (OBESID): Founded in 1989, the Directorate is responsible from performing all tasks and services regarding physical education, sports and scouting activities in formal and non-formal educational organizations under the Ministry. The Directorate provides services in the establishment of products and facilities such as scouting and similar facilities and the development and management of the existing ones. It also organizes the production and distribution of scouting materials required in Youth and Scouting training facilities and in primary and secondary schools.

Directorate of Intramural Physical Education and Scouting organizes non-formal educational camps for students enrolled in Primary Education (10-15 age range) and in Secondary Education (15-18 age range) in Turkey. The number of camps established in different regions of Turkey is approximately 10. The training of scout leaders is undertaken in Yolkonak (Kastamonu) Training camp.

Non-formal environmental education activities of The Foundation for the Protection and Promotion of the Environment and Cultural Heritage (ÇEKÜL): ÇEKÜL founded as an NGO in Istanbul in 1990 aims to protect natural and cultural heritage. The Foundation makes a point of having natural and cultural environmental issues at the same level in the trainings it provide in the form of natural and cultural heritage education programs and summer schools and organizes the training content accordingly.

Public and local government administrators and units, local NGOs and universities support the educational implementations. The content of the trainings is prepared by ÇEKÜL Training Unit in collaboration with experts in the field of cultural and natural heritage conservation, architects, archeologists, art historians, city planners, academicians from nature, forestry and urban planning departments and implementers. Modern educational methods are used in trainings in an interactive, participatory and collaborative manner. Students from education and social sciences departments from universities are providing voluntary services during the implementations of the trainings.

ÇEKÜL training programs are comprised of educational programs geared towards natural entities for preschool and primary school students, cultural heritage education for primary school students, architectural summer schools for university students organized in historical cities and programs aiming to equip staff in local governments responsible from conservation.

The educational programs of ÇEKÜL, targeting all age levels, aim to transfer the role and responsibility of conserving the natural and cultural heritage to future generations. Such an educational approach that provides opportunities to strengthen the intergenerational ties and allows for young staff to take part in conservation roles increases the hope for keeping natural-historical-cultural values alive.

Non-formal environmental education activities of The Environmental Conservation and Research Foundation (ÇEV-KOR): Founded in 1991 by a group of instructors from Ege and 9 Eylül Universities with the aim of conserving and developing natural, historical and cultural entities, the Foundation also aims to create environmental awareness in every sector in the society. The center of the foundation is in İzmir. “Ecological Summer Schools” are opened by the Foundation for secondary school and university students. The summer schools opened in İzmir, Kastamonu and Trabzon aim to develop environmental awareness with the help of both theoretical and hands on classes.

Non-formal environmental education activities of The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA): The Foundation was established in 1992 by 26 prominent business men and 16 companies in order to fight against the erosion problem in Turkey. Although TEMA Foundation whose central branch is located in Istanbul provides activities and products in the framework of environmental education such as caricature, art, composition and slogan contests, training seminars about erosion, training seminars for TEMA representatives and assistants, nature and erosion training camps (summer schools), conferences, radio and TV programs, TEMA Karamancı Nature Culture Center activities and TEMA publications; its main non-formal environmental education activity is “Nature and Erosion Camps”. The most active and effective NGO in Turkey, TEMA has a team of 6 professionals in its training staff comprised of Head of Education Department, Program Development and Publication Specialist, Material Development Specialist, Educational Activities Specialist, Mobile Training Vehicle Project Training Specialists and Technicians and Document Information Centre Manager. TEMA’s educational staff includes 35 volunteers consisting 22 professors, 5 lecturers, 5 assistant lecturers, 2 doctors and 1 research assistant.

Since 1997, TEMA organizes “Nature and Erosion Camps (Summer School)” in summer months in order to provide hands-on and visual training for transfer of information regarding erosion, its results, precautions and the vegetation, to contribute to the conservation of natural entities and to equip participants with ecological literacy skills that will help them to transfer knowledge and information to their organizations and environments. 5046 individuals participated in these camps between 1997-2011.

TEMA with 555 representatives and volunteer managers and more than 410.000 volunteers in Turkey helps thousands of its members meet with the nature through forestation activities and provide non-formal environmental activities in this manner as well.

Non-formal environmental education activities of The Scouting and Guiding Federation of Turkey (TIF): The history of scouting in Turkey goes back to documents relating the establishment of an organization considered the basis of scouting in 1904 by Tefik Efendi in Beirut in the borders of the Ottoman Empire. With the foundation of the Turkish Republic, scouting was organized under the responsibility of Ministries such as Youth, Sports and National Education. Turkish Scouting Federation was founded in 1992 under The General Directorate of Youth and Sports. The federation continuing its activities under The General Directorate of Youth and Sports for 14 years was given autonomy in 2006. With the mandate of autonomy, the Federation has become a legal entity. TIF is the only organization in Turkey which is a member of World Organization of Scouting Movement (WOSM) and World Association of Girl Scouts (WAGGGS).

Non-formal environmental education activities of The Turkish Environmental Education Foundation (TÜRÇEV): TÜRÇEV is an NGO founded by and within the scope of the Ministry of Culture and Tourism. The NGO aims to inform the society regarding environmental problems and precautions and to guide society towards effective participation in the solution of these problems and to efficient behaviors in their respective organizations and in the society. “Eco-schools project” and “Young spokesmen of the environment project” can be cited among the non-formal environmental educational activities of TÜRÇEV.

Non-formal environmental education activities of The Nature and Peace Association: The NGO which was founded in 1993 started its work with a wide organizational target and the participation of individuals sensitive to

matter regarding the nature. It continues its work with its current 134 members and 4000 volunteers. The NGO directs its activities based on volunteer work to target groups such as women, youth and retired individuals.

Non-formal environmental education activities of TÜBİTAK: The most comprehensive projects in the framework of non-formal environmental education in Turkey is undertaken by TÜBİTAK Science and Community Department. The ecology based nature trainings inspired from USA practices which started in Termessos Natural Park in 1999 is now widely held in Turkey. The nature education project which started in the framework of national parks has now expanded to natural and cultural fields as well. TÜBİTAK provided funds for 13 projects in 2007 and implemented non-formal environmental education projects in 18 national parks and various other areas in 2008. The total number of projects combining nature education and science schools reached to 27 in 2009. The number of projects are still on the increase. The number of nature education and science schools supported by TÜBİTAK reached a total of 49 in 2010. The number is 97 in 2011.

As a result of non-formal environmental education provided by TÜBİTAK, deep rooted changes occur in the viewpoints of participants even when the duration of training is short. No other type of education with the same duration can ever cause similar changes in the outlook of individuals regarding the universe, life and events as caused by ecology based environmental education. The nature we observe is the product of synthesis. Processes that belong to different disciplines are managed together, have interacted and different eco systems and landscapes are formed. Each landscape represents a different synthesis. Hence, nature education carries a multi-disciplined character due to its content. And due to this reason, environmental education is realized by combining the formal and informal programs

The environmental education project aims to create a positive perception of science, arouse scientific curiosity and provide scientific activities by using natural and cultural resources of National Parks and the surrounding areas. The principal purpose of the project is to provide a framework for participants to develop desire, curiosity, and motivation, all of which will provide a base for lifelong learning. The purpose is not to provide mass scientific information without individualizing it. The project will teach the participants the way nature works on the basis of relationships among different parts, provide an opportunity to observe, set the stage for an interrogative learning environment, increase awareness on contemporary environmental problems and encourage individuals to think critically and scientifically.

Titled “Ecologically-based Environmental Education in protected areas”, the program will cover topics such as the formation and development of geologic and geomorphologic features; the important nature protection areas and their resource bases; flora and fauna of the area; wildlife protection activities and programs; underwater biological diversity in the Aegean Sea; possible effects of global warming on the area; sustainable use and management of fresh water resources in the Gulf Region; wetland management practices; the archeological, historical, natural, and cultural resources of the national park; the effects of contemporary environmental problems on the critical ecosystems in the area; the cultural ecology i.e., human impact and interrelationships between man and the environment; everyday life and local cultures in relation to the natural resource use.

The target group of the Project in the first part will be teachers working for the Ministry of Education, scout leaders and others who are thought to help disseminate the knowledge gained during the project including the individuals working in the health sector, representatives of Non-Governmental Organizations etc. The participants of the second period will be research assistants and M.A and Ph.D students from different universities. While determining the target groups we thought that the participants should be able to perceive correctly the problems as a result of human-environment interaction, the threads towards the targets of sustainable developments and biological diversity and transfer these understandings to the groups they educate. It is expected that these teachers, scout leaders, research assistants and graduate students will integrate the knowledge and understanding they get from the program and if possible organize similar nature education programs in their areas. The period of the projects will be divided into two 10-day sections.

In order to create the desired effect, the method will go beyond the classical teaching methods. The teaching topics were identified by a group of experts. These topics will be thought in a non-traditional class setting with no classical hierarchy between the teacher and the learner; the theoretical information will be thought with a popular setting supported by fieldwork. Participatory and interrogative approaches will be prioritized and participants are

expected to be actively involved in the process. Observation and hands-on activities by using different science kits will be provided; nature will be used as the main laboratory; students will find time and opportunity to express their ideas and be part of the learning process; they will be given the opportunity to determine certain problems and to propose solutions for these problems by forming working groups. Particular emphasis will be given to the ways to disseminate knowledge they gather during the program. At the same time, we aim to develop the ability of masses to embrace science by teaching the participants the language of nature. The teaching method will be holistic at the end, providing sustainable use and protection of protected areas.

Although non-formal environmental education started 30 years after than USA, it is apparent that thousands of nature lovers have been trained in those 10 years. Nature education enables the community to have a wide ecological vision. While the awareness for nature increases due to education, love of nature is infused in individuals. National parks have been turned into nature labs as a result of nature education projects. When we consider the average number of 25-30 participants in each non-formal environmental education project of TÜBİTAK we can see the ripple effect of the nature education and that a group of quality trainers who can form human-nature relationships on a hands-on basis are created.

3. Results

The process starting with United Nations Conference on Environment and Development (UNCED) triggered the development of non-formal environmental education in Turkey.

It is known that there are approximately 170 voluntary organizations, foundations and associations in Turkey working in the field of non-formal environmental education. The majority of these voluntary organizations based in all 81 cities in Turkey are centered in large cities such as Istanbul, Ankara and İzmir.

NGOs in Turkey provide various activities related to increasing community awareness in the field of environment in the form of non-formal environmental education programs. The activities of the NGOs which aim to affect and guide the public have caused various developments in Turkey about the environments in the recent years. The NGO activities selected among the sample for the study due to their work on public education field are facing some problems in their relationship with the government and among themselves, in their management structures, in reaching the whole country and to their target groups and in their financial and technical equipment.

In addition to these, various environmental education work is undertaken in the national level in the framework of projects prepared and funded by international organizations and institutions (EU, UN, UNESCO, REC etc). Non-formal environmental education practices in our country are many times only limited to shallow practices such as collecting waste materials like plastic and paper. The only way to change this situation is through disseminating and expanding ecology based integrated environmental education programs in which formal and informal trainings can be provided together similar to the examples in the world.

The projects continued by TÜBİTAK between 1999-2011 titled "Ecology based environmental education in protected areas" contribute to informing the youth in an ecological based manner about the natural, archeological, historical and cultural values. The participants of the trainings are targeted for acquiring the skills with observing the nature and comprehending the diversity and uniqueness in the balance, color, shape and aesthetic of the nature. In the training in which trainer-student relationship are not managed in a strict hierarchical level but creative ideas and many life experiences of the students are utilized, a different outlook to environmental problems is developed from social and cultural frameworks, economical cause and effect relationships and local and universal scales. At the end of the program, students are expected to acquire the skills of observing the nature and developing a unique style in reading it and to access the ability to perceive the diversity in the shape-color and aesthetic of the nature, singularity, uniqueness and the balance of the nature. In terms of teaching techniques, invoking curiosity and interest in students and having them question what they observe is aimed rather than teaching specific and selected topics. Hence specialist teachers are requested to refrain from presenting topics in traditional methods under traditional classifications and from using abstract conceptualizations and theoretical associations. It has been seen from questionnaires given at the end of training periods that trainers who employ interactive teaching methods are found to be more successful. The students with inherent interest and curiosity who participated in these trainings open to

all departments in universities are found to comprehend the holism of the training and display more participatory behaviors.

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