

Review

Introducing environmental education in teaching foreign language to young learners

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Due to growing environmental problems, the need for increased environmental awareness becomes necessary. One of the ways to help people increase their awareness is via education. It is often argued that the outcomes of environmental education are positive if it started at an early age. However, when such an education is given limited to the content of certain courses (e.g. science, biology) the benefits will be restricted. The current study highlights Turkish efforts for environmental awareness and it aims to shed some light into ways to integrate environmental education to English as a foreign language lessons which are offered at the primary level. The paper argues when environmental education is given as a constituent of foreign language lessons at the primary school, children will gain multiple benefits such as developed environmental awareness and meaningful second/foreign language learning.

Keywords: Environmental education, environmental awareness, children, young learners, ELT, content-based instruction

INTRODUCTION

The notion of “environmental awareness” is now being frequently emphasized by governments, non-governmental organizations and some private institutions due to the alarming environmental conditions all around the world. During the last century as a result of rapid developments in science, technology and thus industrialization, our natural sources have suffered damage, but yet, the need for those sources has increased with the growing population of the world. We, now, see the negative consequences of global warming, ozone depletion, pollution etc. in our daily lives. The relationship between the nature and the human is growing away from each other.

The common characteristic of environmental problems is that they are “global” (Erten, 2004). This is why the environmental efforts should not focus on individual regions, countries, or places and, in addition, it should not be considered as the problem and responsibility of specific people or institutions. Global understanding of the environmental issues could only be developed with common efforts of countries all around the world. The present study discusses the Turkish example for

environmental endeavors and points out some practices to integrate environmental education to foreign language teaching.

In the 1960s, along with the rest of the world Turkish government started its efforts to prevent environmental problems (Erdoğan et al., 2009) by emphasizing the importance of the protection of the people’s physical and mental health in its 1961 constitution (Özdemir, 2003). This was the first time environment was acknowledged in Turkish Republic’s constitution via article 49. Attention to the environment increased with the 1982 constitution (Erdoğan et al. 2009). Another major step was the replacement of the Prime Ministry Under-secretariat for Environment with the Ministry of Environment in 1991 (Erdoğan et al. 2009).

The result of the increased attention to the environment was reflected in the school curriculum. In the 1990s, at the primary level national projects supported environmental education (Erdoğan et al. 2009) in addition to projects that are developed and organized by non-governmental organizations such as TURCEV (Turkish Environmental Education Foundation) and TEMA (Turkish

Foundation for Combating Erosion, Reforestation and The Protection of Natural Habitats).

Despite the emphasis on environmental issues and awareness, it can be said that the expected outcomes have not been reached yet. In the 4th Environmental Council organized by the Ministry of Environment, experts emphasized the inadequacy of environmental education (Bimçekli, 2001). One of the most important and effective ways to develop public awareness is via education. Several international meetings and documents such as the Tbilisi Declaration have emphasized the necessity to develop people with knowledge and understanding about nature and with skills to act on environmental problems (Çakır et al., 2010).

In order to develop such an understanding, it is necessary to provide environmental education. Education, that enables learners to develop awareness, has better and more effective results if it starts at a younger age. Such education should spread out to each step of the formal learning process. It should be integrative rather than disconnected. This is why environmental education should be incorporated to whole curriculum and involve more than few subjects within the units of particular courses.

The purpose of the study

In the present study, the researcher aims to shed light to different ways to spread environmental education to the curriculum, by specifically focusing on the ways to integrate environmental issues to EFL (English as a Foreign Language) lessons for young learners. The trigger for the study is that foreign language teaching starts at the primary level in many countries all around the world, including Turkey. Although, it is relatively new for some countries to reduce the age for starting to learn another language, it is gaining popularity. However, at this point there are certain considerations such as selecting appropriate methods, approaches and techniques when teaching children. These methods and techniques largely depend on the characteristics of the young language learner and their cognitive abilities. In addition, it has been argued by many researchers that the outcome of environmental education would be more beneficial if it starts at the kindergarten or primary level (Bimçekli, 2004; Erten, 2004).

Thus, the aim of the current study is to find a way to relate three points mentioned earlier: environmental education, foreign language teaching, and teaching children. Although, environmental education and foreign language education seem not very connected, the researcher will attempt to make a link between these topics, since it is strongly believed that environmental education is crucial and one of the primary assets of

formal education.

In the next sections, the researcher will discuss about the importance of environmental education, some approaches and techniques of foreign language teaching that would facilitate the integration of environmental education to language learning in relation with the characteristics of the child language learners.

Environmental education

Environmental education programs aim to increase environmental knowledge by enabling the learners change their environmental behavior (Pooley and O'Connor, 2000). In a narrower sense, it intends to raise people's awareness for environmental responsibility (Ayvaz, 1998). In a broader sense, the aim of environmental education is to help people develop positive attitudes to protect the environment and the natural sources and gain sustainable changes in their behavior as a result of these attitudes and finally guide them to become actively involved in the solutions of environmental problems (Bimçekli, 2004; Erten, 2004). It is argued that it is necessary to give more environmental information and knowledge to individuals to enable them to change their behaviors (Hungerford and Volk, 1990). For education towards sustainable development, it is essential to teach the society to be responsible towards the environment (UNESCO, 2010a). The aim of education for sustainable development (ESD) is to enable the people to develop necessary attitudes, skills, and knowledge for decision making to reach at beneficial outcomes for the self and others (UNESCO, 2010b). Environmental education has six objectives identified by the United Nations (UNESCO_UNEP, 1976 cited in Jacobs and Goatly, 2000, p.256).

1. Awareness of environmental problems.
2. Basic understanding of the environment and its problems and human beings' role in relation to the environment.
3. Attitude of concern for environmental problems.
4. Skills in overcoming environmental problems.
5. Ability to evaluate proposed solutions to environmental problems.
6. Participation in solving environmental problems.

It is important to develop environmentally literate citizens as one of the goals of environmental education (Çakır et al., 2010). Environmental literacy could be developed in several domains: cognitive (Knowledge and skills), affective (determinants of behavior), and psychomotor (responsible behavior for the environment) (Erdoğan et al., 2009). It is thus, essential that environmental education involves activities that engage learners to use these domains. It is noted by some researchers that, it is especially important to involve the

affective domain to help individuals to acquire awareness to develop positive attitudes towards the environment (Iozzi, 1989). Pooley and O'Connor (2000) also emphasize the importance of the affective domain as the majority of environmental education programs focus on the cognitive domain. Since the aim of environmental education is to change the environmental behaviors, understanding the foundations of environmental attitudes would facilitate the change of behaviors. Consequently, behavioral change could only be possible with the balanced use of all domains.

Although, there are arguments related to the onset of environmental education and that it could be best provided during secondary education, it is claimed by some researchers that it would be more beneficial if it started at the primary level (Erten, 2004) and that such an education could also be developed at an early age (Bimçekli, 2004). The basic idea for an early onset is related to the fact that attitudes, behaviors and value judgments develop at early ages. Love for the nature and the animals, the ability to empathize to nature-human relationship are affective developmental processes acquired at the early years of life. Instinctively, people become protective of things that they love and feel responsible for. Therefore, for people to become actively involved in solutions to environmental problems and develop awareness, they need to learn to love everything that the environment encompasses.

Due to the fact that the environmental problems require immediate action and awareness that needs to be developed at a younger age, it is claimed that environmental education at the primary schools shouldn't be limited to the content of certain courses nor with limited number of units (Erten, 2004). Such an education needs to be integrated to the content of all the courses in the curriculum. Research to this date has showed that students lack environmental knowledge, have not developed expected attitudes and their attitudes had no statistically significant effects on their behavior (Erten, 2004). In addition, the studies conducted to support environmental education in Turkey, showed that environmental topics that are found in the programs of kindergarten, primary and secondary schools are not adequate in terms of developing environmental awareness (Bimçekli, 2001; Külköylüoğlu, 2000; Ünal and Dımıçki, 1999; Kiziroğlu, 2000).

Positive attitudes and sustainable behavioral development is possible only with systematic and planned education and with teachers who have environmental awareness. Hence, every teacher needs to be sensitive to environmental problems. It is often considered that environmental education and developing environmental awareness is the responsibility of science or biology teachers. In this paper it is argued that it should be teachers' responsibility regardless of their

subject area. Environmental education should be incorporated to the content of all courses. Such integration can be possible only if the schools and their directors believe in such necessity. In a study in Turkey, it is found out that students contribute to all activities related to environmental education when necessary conditions are provided, however, the schools, which contributed to the study gave inadequate support for such an education (Bimçekli, 2004). It is argued that this is due to the fact that schools do not consider environmental problems as something that requires immediate solutions. The support of the National Ministry of Education for the integration of this topic to the whole curriculum is, hence, necessary.

In another study, Bimçekli (2001) claimed that the number of activities that are used in schools to help children develop environmental awareness is inadequate. The researcher argues that this is because the teachers who will provide such an education have limited environmental knowledge. In addition, she also suggests that teachers consider environmental education as a "duty" rather than a responsibility.

One of the most important ways to help teachers develop environmental awareness and carry responsibility is to focus on teacher education process. UNESCO (2010c) sees teacher educators and institutions as key for education for sustainable development. Teacher education institutions have a valuable role in changing the society. During pre-service teacher education, trainees need to be given specific information related to the topic and need to be shown ways to integrate "environment" to the content of their course. Concordantly, programs of education faculties need to emphasize the role of the teacher in environmental education and provide opportunities to teacher trainees to learn about activities that they can use related to their area of study, gain knowledge related to the environmental topics that they can work on and be involved in interactive studies.

During pre-service teacher education, trainees' should be provided with information that would enable them to talk about the environment with adequate background to help their students to embrace the environment and feel responsible for it. At the same time, they need to learn to develop materials that they will use in the classroom and be equipped enough to plan activities that will help their learners to develop positive attitudes and sustainable behavioral changes.

Content-based instruction and topic-based learning

As mentioned earlier, environmental education should be considered as an integral part and constituent of formal education. Furthermore, teachers should be aware of

opportunities to integrate environmental knowledge into their teaching. Although, “environmental education” and “foreign language teaching” seem to be irrelevant, some language teaching approaches such as communicative approach, Content-Based Instruction (CBI) and Theme-Based Teaching make the integration of these two topics possible. Jacobs and Goatly (2000) suggest that the inclusion of environmental issues in L2 course books suits with these approaches appropriately.

During the last 35 years, Content-Based Instruction (CBI) has been used in different contexts. Initially, it is used in programs for English as a Specific Purpose (ESP) and later it's used extensively from kindergarten to secondary education both in first and second language contexts (Grabe and Stoller, 1997). The basic rationale behind content-based instruction is that students learn the language and the subject matter via input given in the target language related to the content being learned.

In the European Union, content-based instruction is widely used and referred to as “Content and Language Integrated Learning, (CLIL)”. CLIL refers to the teaching of a subject within the curriculum by using a language other than the one that is normally used (EC, 2010). The subject could be totally different from language teaching. According to the European Commission CLIL is found to be effective at all levels of education from kindergarten to adult education as well as higher education and that its success has grown during the past 10 years (EC, 2010). CLIL makes it possible for learners to encounter with the target language meaningfully to gain knowledge about a subject that is not language related.

European Commission (2010) mentions about several benefits of CLIL. Accordingly, it improves language competence as well as skills required for oral communication; it gives opportunities to learners to study a subject from different perspectives; increases contact with the target language; methods and classroom practices could be diversified and most importantly it increases learner motivation and confidence not only in the target language but also in the subject matter.

European Commission supports CLIL with its initiatives. In the “Action plan for Language Learning and Linguistic Diversity” CLIL is identified as a priority. In addition, a network called EuroCLIC has been developed to contact practitioners and to benefit from their experiences. Thus, the new trend in foreign language teaching in Europe sets forth the integration of content and language.

Although, the primary aim is to teach one of the curriculum topics such as mathematics, science, social studies or arts, environmental topics could be presented within the content of the course. The foreign language could be a medium to learn about environmental issues. Ghafoor-Ghaznawi, the former head of UN Environment Program Environmental, (1993, cited in Jacobs and Cates, 1999) claims that environmental education is

cross-curricular since it embraces all areas of study. Hence, Jacobs and Cates (1999) argue that L2 learning has a crucial role in helping people to learn about and participate in the protection of the environment.

In addition to CBI and CLIL, “Theme-based or Topic-based Learning” also facilitates the integration of environmental education to foreign language teaching. Topic-based work refers to the organization of learning and language learning around topics that are of interest to children (Moon, 2000). The aim is not to provide all the information related to the topic, rather to enable the learners to use the topic as a means to learn it's certain aspects and the language that is associated with it, so that the topic could be used for scaffolding (Bourke, 2006).

Topic-Based Instruction could be used as an alternative to CBI since it is easier to integrate a theme or a topic to the language lesson than to teach a whole content with the target language. As different from the CBI, topic-based teaching could be done any time it is needed (Scott and Ytreberg, 1990). Integrating CBI to foreign language teaching requires changes in the curriculum of the schools as well as the education faculties. Curriculum change should be well-planned in order for it to be effective and it is a rather long process. To apply CBI, teacher trainees need to be prepared to use such an approach. In addition, they need to have adequate environmental knowledge, with high environmental awareness and be trained about preparing various activities that would facilitate the acquisition of environmental knowledge. CBI could be one of our long-term goals. Until it could be done, topic-based instruction could be used easily without any changes in the curriculum to provide environmental awareness for the young language learners.

There are several benefits of topic/theme-based work. Firstly, when students focus on learning a topic, foreign language becomes an important and necessary medium to understand it. By this way topic-based instruction enables learners to use the target language meaningfully and purposefully. One of the main problems in teaching foreign languages to children is that they do not have a purpose for learning another language when they can already communicate by using their mother tongue. Thus, foreign language learning is neither meaningful nor purposeful for children. Without an effective and strong classroom methodology this lack of need for learning may result in learning difficulties.

Moreover, topic-based work facilitates the association of language lessons with learners' experiences (Scott and Ytreberg, 1990). Topics are also beneficial for the learning process as well. Learners can associate certain vocabulary items, structures or situations with the topic, which would facilitate the comprehension and recall of the new information (Scott and Ytreberg, 1990). This is because

because the language learning occurs within a content. Language itself is not neutral nor does it exist without a social context. In addition, it is not subject-specific, thus it is convenient to include topics of concern (Focho, 2010).

In addition, theme/topic based-learning provides opportunities to explore a topic in a very detailed way (Scott and Ytreberg, 1990). During such a topic analysis individuals develop ideas, emotions, and awareness related to it. Since one of the aims of environmental education is to help learners develop positive and sustainable feelings, ideas, and behaviors the benefits of such an approach cannot be denied.

Another characteristic of theme/topic-based work is that it provides flexibility. The teacher can decide on the amount of time spent for the instruction of a theme, the kinds of materials that can be used or developed, and types of activities that can be carried out. Such decisions are made according to the learners' cognitive, affective, behavioral, and language needs. Best of all, since the theme/topic-based work is related to a content, classroom work would involve all language skills as well as controlled and independent activities (Scott and Ytreberg, 1990).

The success of theme/topic-based work is related to the suitability of the activities. When chosen appropriately, themes provide children to learn related language, concepts and skills (Moon, 2000).

Topics/themes should involve a variety of activities. These should enable students to be scientific, creative or investigative (Holderness, 1991). Appropriate choice and use of activities enable children to think about the environment, raise their awareness, increase their knowledge, love the environment and everything that belongs to the environment, and learn to become an active participant of the solutions offered for environmental problems. Topics or themes related to environmental education should allow learners to learn about the environment; identify the living and non-living features of the environment (fauna, flora, water resources, etc.); be informed about human-related dangers on these features, learn about ways to prevent such dangers; understand the negative effects of the environmental degradation on human life and generation; call attention to nature and animal love; and to encourage taking action on these issues. Activities that are developed or chosen for these aims should primarily help learners develop critical thinking and problem-solving skills, provide opportunities for active involvement, support learners visually and kinesthetically, involve developing environmental projects, and encourage learning by doing.

For most of the children, foreign language learning is not intrinsically interesting (Holderness, 1991). Children do not have a reason for learning another language unless they are living in the second language country. In

foreign language contexts learners' only chance to be exposed to the foreign language is the classroom. Outside of the classroom there are limited opportunities for them to practice foreign language. This is why it is not meaningful for children to learn another language that they are not going to use or relate to their own lives. Thus, foreign language learning process needs to be purposeful and meaningful for children in order for them to be able to learn it. With the help of theme/topic-based learning children can learn structures, sentences, and vocabulary that are, normally, not related with their own lives in a meaningful way. By this way, language learning process is facilitated as children are involved in a variety of activities, investigate environmental issues, start questioning the reasons for environmental dangers and develop their ideas for environmental problems.

Children's characteristics

Children and adults are different in terms of their learning styles. Children are predominantly visual and kinesthetic. They learn better if they see and are physically involved in the learning process. They are not very good listeners. One of the principles of foreign language teaching to children is to help children learn indirectly via visual and kinesthetic activities. The experiences that are gained throughout the process enable them to store information in their long term memory.

In Turkey, foreign language education is compulsory and starts at fourth grade. At fourth grade children are nine and 10 years old, which according to Piaget's cognitive development stages this age group corresponds to the period of concrete operations. At this stage children are able to use logic. However, abstract and hypothetical thinking is not developed yet. Although the age that determines the developmental stages is not the same for every child, references could be made by referring to the general. After 11 years of age which corresponds to the fifth or sixth grades, children move to the period of formal operations and start to think hypothetically. The distinction at each stage is important so that they require different types of activities.

Moreover, children's learning style play an important role in the selection of the activities. Children learn by seeing and doing. So, teachers need to select hands-on activities, which enable the learners to experience with the new information by facilitating their understanding. Furthermore, visual presentation of the environmental issues supports learning, increases awareness, and helps learners who are still at the period of concrete operations and can only understand from what is concrete.

In addition to the learning style, children's characteristics are another important determinant of

activity choice. By nature children are talkative, creative, and imaginative. The activities should involve students to be engaged in meaningful and purposeful talk. Problem solving activities will not only enable the learners to think critically on environmental problems and solutions but also use their creativity. Such activities encourage children to talk, think, and imagine about the consequences of environmental issues.

By using children's natural characteristics and by using the activity types mentioned earlier and introducing the foreign language in a context, learning outcomes will be increased. Using resources are essential in facilitating the learning process. Resources can be anything that aids the learner, such as maps, menus, pictures, tapes, plastic models or replicas or regalia. They can be bought, made by the teacher and/or students, or collected from the nature such as leaves, pebbles, flowers etc. For instance, using displays as a resource is a great way to provide information, support language learning, encourage students to produce their best work, arouse students' interest and become an incentive for topic-based discussion to explore ideas (Moon, 2000). Flowers, leaves, pebbles, barks, soil, sea shells, sand, and water that children collect from nature can be used in a display to create an opportunity for talking in the foreign language, to recognize the environment, use their problem-solving skills, develop empathy, create a platform for exchanging ideas and thinking about environmental issues, and practice a multi-sensory approach by enabling the learners to be involved in kinesthetically and visually. Displays also provide the young learners with experiences necessary to develop environmental awareness and with a basis to use the language meaningfully and purposefully.

Using problem-solving activities are another way to provide environmental education. Students could be asked to prepare a group project by identifying and reporting all the anti-environmental applications at their home like, squandering electricity and water, not recycling, using deodorants that contain nitrogen oxide etc. and develop their own solutions to prevent them. In such group projects students develop a desire for real communication. Also, problem-solving activities help learners develop their critical thinking skills. At the same time these activities enable the learners to develop environmental awareness, guide them to think about environmental problems, encourage them to be actively involved in environmental protection. One of the reasons for low environmental knowledge is related to the individuals who are anxious about resisting environmental problems but yet who are not aware of their own roles and responsibilities in the process of taking action (Gigliotti, 1993). When education starts at an early age and is integrated at every stage of formal education

children have a chance to think about their responsibilities and different ways for active involvement. As a result of such activities used as a part of theme/topic-based learning, environmental education can be integrated with foreign language learning and can be used with children as well.

CONCLUSIONS

Consequently, environmental education needs to be given at all levels of formal education from kindergarten to pre-service teacher education. As well as it can be a separate course it can also be integrated to the content of other courses. Especially, in foreign language teaching there are certain approaches and techniques that make it possible to provide environmental education. Such integration has multiple benefits for the learners such as to learn the foreign language meaningfully and purposefully and to gain environmental awareness.

In addition, during the process of teacher training, trainees' need to be informed about the ways to integrate environmental issues with the subject matter they are going to teach and be encouraged to develop activities necessary for such integrated teaching. Also, cooperation with the non-governmental organizations needs to be made to help trainees increase their own awareness.

Moreover, school teachers and directors need to be supported with in-service training to foster their desire for environmental education, become an active participant and gain environmental awareness.

If we consider the fact that the child is primarily educated within the family, education of the families is crucial in developing a social awareness. Education of the families could be provided by schools as well as non-governmental organizations. During family training, families should be informed about issues related to the ways to help their children develop environmental awareness. In addition, families need to be aware of the activities that they can do to increase their own and children's self-awareness.

One of the ways to develop environmental awareness is through the education of the society. If this cannot be managed within the family, it may mean that the responsibilities of the teachers are much higher. Education of the community could be possible if it started at an early age. It is one of our duties as educators to help children feel responsible for the environment. The feeling of responsibility develops when love exists. Therefore, environmental education at a young age should involve practices that help children develop positive feelings. An early start for education when spread out to the whole curriculum develops environmental literacy and fosters the outcomes.

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