

The Concept of Sustainability in School Textbooks “The Case of English Language Textbooks in C, D, E, F Greek Primary School Classes”

Vasileios Liondos

*English Teacher at the 11th Primary School of Ioannina, Greece
112 KA February Street 45221, Ioannina, Greece*

Abstract: The present work is a research that was carried out by the method of content analysis and bibliographic research. The subject of the research was Sustainable Education and the subject of Education in English Language Textbooks.

The textbooks for the C, D, E and F Greek Primary School Classes are examined, the topics related to sustainability issues and the environments are presented.

Main activities are presented and teaching scenarios, which further enhance the cultivation of students' sensitivity in relation to the environment, are proposed.

Keywords: Sustainability, Environmental Education, Sustainable School Textbooks, Sustainable Development

Introduction

The decade of Education for Sustainable Development was launched by the United Nations on January 1st 2005 and continued until December 31st 2014. Sustainable Development for Education is a 'dynamic' concept that uses all aspects of public awareness, education, and training to create or enhance understanding, linkages between Sustainable Development issues and the development of knowledge, skills, perspectives and values that will empower people of all ages to take responsibility for creating and enjoying a sustainable future. (UNESCO, 2004).

Implementing Sustainable Development in schools involves approaches to teaching and learning that support the goals of conservation, social justice, appropriate development and democracy. These approaches are based on the vision and mission for personal and social change. The project aims to develop the kinds of political virtues and skills that will empower all citizens and help our social institutions play a leading role in the transition to a sustainable future.

Thus, Sustainability recognizes the importance of economic viability and employment generation at community and regional, national and international scales while providing students with the opportunity to acquire the life skills they need to become constructive and active citizens, capable and committed to be successfully propelled into a peaceful, abundant and sustainable future.

The term "Environmental Education"

Environmental Education is developed gradually since the 1960s. At first, it had the form of extracurricular activities which aimed at reducing the reckless use of natural resources. It expanded by involving social, cultural and economic factors, decisive for the relationship of people with each other, but also with nature. It is multi-dimensional.

A prevailing definition was expressed at the Stockholm Conference. Environmental Education is not limited to the transmission of piecemeal environmental knowledge. On the contrary, it has as its purpose "...the formation of a global population, which is aware and interested in the environment and its problems and has the knowledge, skills, attitudes and willingness to work individually and collectively to solve current environmental problems and prevention of new ones" (Papadimitriou, 1998).

The Dimensions of Environmental Education Education around the environment

It refers to the acquisition of knowledge related to the environment and environmental problems and the development of skills necessary for the acquisition of knowledge. The environment is considered an object of learning.

Education from and within the environment

The environment is 'used' as a means of acquiring knowledge and developing abilities and skills and as a source of learning. Knowledge is acquired from the environment - a source of knowledge with direct experience which is built with activities that occur within the environment itself in direct contact with things and phenomena and not in structures and processes detached from reality. The environment is considered as a medium, a field and a source of learning.

Environmental Education

It gives social and political depth to Environmental Education and weight in the concept of the citizen and the responsibility he bears for the quality of the environment and the quality of life. It encourages participation in decision-making and action in the social field with the aim of preventing and solving environmental problems and managing natural resources. The environment is considered a goal.

From Environmental Education to Sustainability

From the 1990s onwards, Sustainability has been central. It identifies changes in the economy, politics, and society, in the way we see society and nature. Education for Sustainable Development is aimed at individuals and social groups of all ages and concerns the formation of free and responsible citizens who actively participate in social events. It has a lasting character. It starts at the pre-school level and continues throughout the life of each person through school and extra-curricular education.

The international community has recognized the importance of Education for Sustainable Development in building a shared future that is ecologically sustainable and socially just. Decades 2005-2015 have been declared as "Decades of Education for Sustainable Development" by UNESCO.

Its main objectives are to integrate the values of Sustainability in all forms of learning, to encourage changes in behavior towards a more sustainable and just society for all, to foster an increasing quality of teaching and learning in education for sustainable development (UNESCO 2005).

Sustainable School

Sustainable School is a happy, calm, safe, progressive, democratic, and inclusive school, where students are happy to attend. It is a school that enables children to develop their critical thinking, talents, and abilities. It gives time for reflection, that shows love for all children, regardless of their academic performance, a school that is a workshop of life and joy. The Sustainable School is an achievable vision, an achievable utopia. The core idea of the Sustainable School is the integration of the values and principles of Sustainability in all school operations (administration, teaching, learning, resource management, transportation to and from school, school relations with the school and wider community. The Sustainable School is the future of the school as a whole. It is a self-sufficient, friendly, democratic and deeply pro-environmental school.

New Curriculum "Environment and Education for Sustainable Development for Primary and Secondary Education in Greece"

Recently a Publication in Official Gazette B 2820-6-6-2022 of a New Curriculum entitled "Environment and Education for Sustainable Development" for Greek Pre - School Education, A - F Primary School Classes and 1st, 2nd and 3rd High School Classes took place.

Climate change education with interdisciplinary understanding of its causes and consequences are mentioned. It proposes learning approaches that foster critical thinking and problem solving. It cultivates the skills that enable individuals and communities to make informed and responsible decisions. It is not a lesson in the sense of being part of the timetable. It is a valuable tool/charter oriented towards sustainability in the whole range of courses of Primary and Secondary Education timetables

This Curriculum will be implemented in all Greek Pre – School Units, Primary and High Schools in the country from the 2022-2023 school year.

Essentially, with the new Curriculum, we "escape" from the Detailed Study Programs and Interdisciplinary Unified Framework of Study Programs in the narrow sense of Environmental Education, while Sustainable Development is integrated into education and education is sought to be integrated into Sustainable Development.

Sustainability and Environment in the teaching of the English Language in C, D, E, and F Greek Primary School Classes

In the Detailed Study Programs and Interdisciplinary Unified Framework of Study Programs of the English Language in the Primary school, several thematic and proposed actions are mentioned, which are

consistent with the principles of Sustainable Education. More specifically, the topics mentioned are: health, nutrition, diet, exercise, nature, comparison of countryside and city, city-countryside, environment and care for its preservation.

School Textbooks

School Textbooks are books specially written for teaching support for Detailed Study Programs courses and are used by students and teachers

Research Methodology

For this research, the method of content analysis was used. Content analysis is a research tool used to identify the themes and concepts present in a given piece of data.

By using content analysis, researchers can quantify and analyze the existence, meaning, and relationships of these specific words, themes, or concepts. Researchers can use the text to make inferences about the author, audience, and cultural context

Necessity of Research

The present research examines an important issue, that of Sustainable Education in Greece, which has not been extensively investigated to date. It is a fact that in the future the concept of Sustainability will be of great concern to us in the field of Education as well.

In addition, the present research is considered necessary and to a large extent imperative, as a corresponding research concerning the English textbooks of the Greek Primary School does not exist. We want to believe that it is a start, even a small one, a trigger for other researches that are certain to follow in the long run

Objectives & research questions

The individual objectives of the research are the following:

- 1) Highlighting the themes of school textbooks related to Sustainability
- 2) Examining the study guides/ Detailed Study Programs and Interdisciplinary Unified Framework of Study Programs for C, D, E and F Greek Primary School Classes
- 3) Proposing ways to strengthen the element of Sustainability in formal education and specifically in Greek Primary School.

The research questions to be answered through the research are defined as follows:

- A) Are elements consistent with the principles of Sustainable Education found in the English textbooks for C, D, E and F Greek Primary School students?
- B) What topics that promote the concept of Sustainability are found in the English language textbooks for C, D, E and F Greek Primary School students?
- C) How could the promotion of the element of Sustainability be strengthened in the context of teaching English to Greek Primary School students?

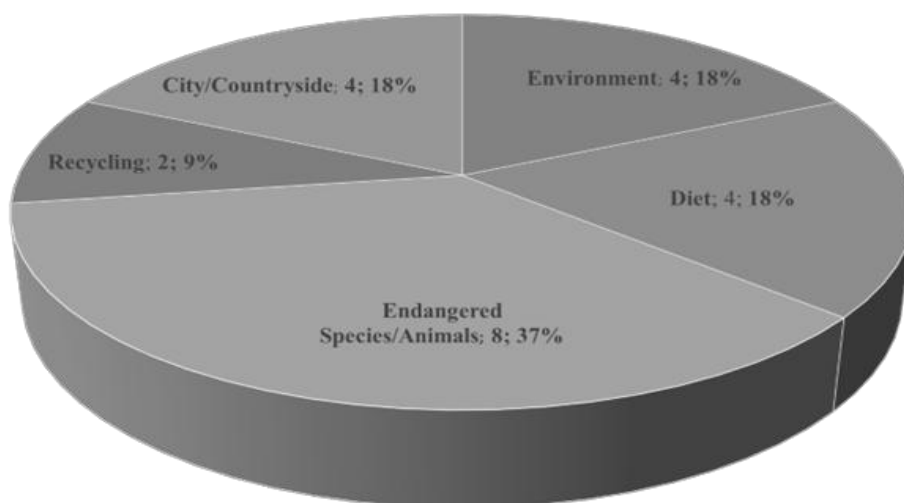
Topics related to Sustainability

The English language textbooks include the following topics: (recycling, animal rescue and care, nutrition and health, nature care, country life).

They are directly linked to the concept of Sustainability and to the goals set by the Study Guide for the environment addressed to students of this age. Students learn to respect the environment, love animals, take care of nature and their place, recognize the benefits of living in the countryside for humans and respect their fellow human beings.

Through the study of the textbooks, there is the repeated reference to the specific topics mentioned by class, while in each class and as the language level of the students rises, the depth is greater. In the following figure we can see the percentage of the Topics related to Sustainability in the English Language Textbooks in C, D, E, F Greek Primary School Classes

TOPICS



Additionally in total of 40 units, 16 of them are related to sustainability which is interpreted to a percentage of 40%

Total Units in A-F English Primary School Textbooks	40
Units related to Sustainability	16
Percentage	40%

Theme Analysis – Animal Care

The first theme that will be presented is the theme that concerns animals, care for the rescue of endangered species. Of course, the care of animals is at the same time part of the care of the environment and is part of the themes related to Sustainable Education. The topic of animals comes back in the English Language Textbooks in the Primary School. It includes basic vocabulary of the English language which is particularly familiar and interesting for toddlers. The concept of animals and endangered species are mentioned in all four Primary School Classes analyzed in this work.

Particularly:

C Class

Concepts-vocabulary

Animal school, learn, climbing, running, swimming, flying, right kind of school, owl, eagle, hare, mole, squirrel. Duck Students are taught about animals, their abilities in a hypothetical animal school and in a great way the concept of respect, diversity and collectivity is "passed" to the students with the following message: "Everybody can do something but together we can do everything!"

D Class

Concepts-vocabulary

Goldfish, dog, cat, bird, iguana, sheep, cow, duck, tortoise, loggerhead sea turtle or caretta caretta, Mediterranean Sea, nests, shell, lungs, breathes air, moves with its front and rear flippers, lays its eggs, land, beaches, Zakynthos, Peloponnesus and Crete, baby turtles, monachus monachus, giant panda, Sumatran tiger, brown bear, wolf, dolphin, wild goat.

Students are taught about pets, their habits, and also about endangered species.

E Class

Concepts-vocabulary

Dolphin therapy, special needs, programs, positive feelings about life, hospitals, day centers, physical exercise, gorillas, National Geographic, Rwanda-Congo Borders, protect, baby gorilla, poachers, forests, rangers, extinction, animal species

Students are taught two texts, one about dolphin therapy for disabled people and a true gorilla rescue story by Dian Fossey.

F Class

Concepts-vocabulary

Only a small nominal mention of endangered animals is made in the textbook of F Primary School Class.

Theme Analysis – Recycling

Another important topic, which was mentioned above and recurring in the books offered for teaching English in two Primary Classes, is recycling.

Recycling is a practice which is absolutely necessary to ensure the protection of the environment from pollution, but also from destructive phenomena such as the destruction of forests.

Recycling is one of the topics included in the education related to Sustainability. The concept of recycling is mentioned in the C and E Primary School Classes.

Particularly:

C Class

Concepts-vocabulary

Planet recycle, can, paper, glass, recycle fans

Students are introduced to the concept of recycling while being "transported" to the planet Recyclon, an ideal planet where recycling is practiced.

E Class

Concepts-vocabulary

Recycle, paper, glass, protect, planet, survive, environment, re-use, rechargeable batteries, environmentally friendly, aluminum, plastic, bins, reduce, disposal, pollution

Students are taught about recycling in one large unit and through a wide variety of assignments, texts and activities.

Theme Analysis - Nutrition - Health - Exercise

In the topics identified in the textbooks for the English Language of the Primary School and related to Sustainability, nutrition is also identified, which shields both the body and the environment.

Since people's eating habits are formed already in the first years of their lives, it is important that all school subjects refer to nutrition as well as implement practices such as changing meals based on correct nutritional standards. By adopting correct nutritional patterns, children not only lay a solid foundation for their health, but at the same time significantly help the environment and limit the footprint they leave on it.

The concept of healthy-unhealthy diet and exercise are mentioned in all four Primary Classes analyzed in this paper.

Particularly:

C Class

Concepts-vocabulary

Healthy-unhealthy, eat, drink, full tummy, empty tummy, bread, ham, cheese, yoghurt, salami, munch, crunch, lunch, bacon, eggs, chips, lick the lips, chocolate, lollipops, sweets, cookies, goodies, fat, thin, yummy, vegetables, fruit, right kind of food, eating right, have a bite, yuk, tasty, cherries, berries, plums, nuts, honey, lettuce, hungry.

Students talk about their eating habits:

On Monday, I have cheese with bread.

On Tuesday, I eat eggs...

What about you?

D Class

Concepts-vocabulary

Healthy, unhealthy diet, different kinds of food, food quantity, cooking instructions, healthy-unhealthy eating habits, sandwiches, supermarket, lemonade, crisps, peanuts, sausages, biscuits, paper cups, paper plates,

bread, butter, ham, cheese, eggs, shopping, fruit, cornflakes, cola, fast food, milk, popcorn, salad, sweets, yoghurt.

Students talk about their eating habits:

It's good to eat or drink / It's not good to eat or drink

Students refer to the quantities of food:

How much lemonade is there in the glass?

How many biscuits are there in the packet?

I want some biscuits

I need some butter

Students become familiar with recipes, their ingredients and the concepts associated with a recipe: Slice, boil, spread, add, mix, grate, drain, beat, peel, pour, potato salad, cut, parsley, mayonnaise, oil, lemon, bowl, recipe, ingredients, salty, sweet.

E Class

Concepts-vocabulary

Food pyramid, oil, sweets, milk, cheese, meat, eggs, fruit, vegetables, bread, pasta

The students get a general idea regarding the food pyramid and are asked through an exercise to decide to choose the restaurant that in their opinion offers a healthy meal.

F Class

Concepts-vocabulary

Dietary habits, green and other vegetables, fruit (fresh or fruit-juice), milk and dairy products, meat (veal, pork, lamb, etc.), poultry, fish (fresh or frozen), bread and pasta (spaghetti, pizza, etc.), dried seeds and fruit, soft drinks (still and carbonated)

The students talk about their eating habits on a daily or weekly basis either individually or in groups and at the same time they recall the Mediterranean food pyramid that they learned during the last academic year. Based on the above, they are asked to fill in a diagram with their ideas about healthy eating.

Theme Analysis Environment, City, Countryside, Love for the Place

Other topics concern the city and the countryside, but also life in nature in general and the knowledge of the place in which the child grows up.

It is a fact that life in the city is a huge risk for the environment while the consequences of the most important degree of urbanization have led to the disappearance of many species of animals but also the reduction of nature's reserves and of course the pollution of the environment from exhaust gas and more.

It is very important that students know the dangers of environmental destruction for themselves and adopt principles consistent with Sustainability as only in this way there is hope for a shift that will allow the sustainability of the planet.

The concept of the environment, the way of life in the countryside or in the city, the various places are mentioned in all four Primary School Classes analyzed in this paper.

Particularly:

C Class

Concepts-vocabulary

Forest, walk, planet earth, water, clean, green, trees, home, river, deer, animals, thirsty, paper bags

Students are taught concepts related to the environment and express themselves about what they consider friendly or unfriendly to it.

D Class

Concepts-vocabulary

Country, Europe, Greece, United Kingdom, North-West, England, Wales, Scotland, Northern Ireland, city, London, capital, mountains, rivers, trees, mountains, rivers, trees, beautiful beaches, sea, house, post office, theatre, museum, café, cinema, shopping centre, block of flats, sports centre, church, bank, supermarket, park, school, clean city, flowers, blocks of flats, gardens

Students become familiar with concepts related to different places, their neighborhood, their town, cities and countries inside and outside Greece. They are also taught how to respect the environment.

Follow the paths

Don't drink water here
Don't litter
Don't feed the ducks
Don't play football
Don't pick the flowers
Keep off the grass

E Class

Concepts-vocabulary

Favorite places, park, litter, grass, countryside, village, city, neighborhood, city center, public transport, parking place, bank, Mediterranean Forests, European, African and Asian continents, biodiversity features, plants, animals, under threat, fires serious problems, general threats, climate change, droughts and floods, extensive building development, atmospheric pollution, lumbering.

Students express their preferences, i.e. whether they wish to live in the countryside or in the city. They express their opinions on how they should move in a city, on tree planting, on the traffic problem, etc. Finally, they are taught about Mediterranean forests and their threats.

I think that driving to work costs a lot of money.

I don't think that driving to work is a good idea. It's tiring!

It seems to me that walking to school is a very healthy habit.

In my opinion, going to work by bus is cheap and convenient.

Why don't you use public transport instead?

How about walking to school rather than taking the bus?

Let's all go to the city centre in the metro tomorrow!

I don't think it's a good idea she drives to work. And she has huge problems in finding a parking place every day!

It's better to take the bus - the traffic is so heavy!

Which is better? The city or the village?

Do you enjoy living in the countryside? Yes, because my owner lets me go everywhere!

F Class

Concepts-vocabulary

Earth Day, environmental event, worldwide, nature, protect, environment, planet, clean, pollution, industrial waste, dumping toxic, animals, become extinct

The students are taught a text about world earth day, about the ecological consciousness they should have and how they should behave.

We consider the story of the child on the beach to be the best, which ends with the following lesson: "So, what it means is that even though I can't change everything, I can make a big difference by doing the little things that matter?"

Conclusions of theme analysis

In conclusion, we can argue that English textbooks are a field that highlights environmental and sustainability issues more than any other subject.

It is important that teachers make sure to take advantage of the repeated reference to environmental and sustainable issues, offering additional material in this direction themselves.

Research questions

- A) Are elements consistent with the principles of Sustainable Education found in the English textbooks for C, D, E and F Primary School students?

The answer to the first research question posed is positive. In fact, both in the school textbooks, as well as in the Detailed Study Programs and Interdisciplinary Unified Framework of Study Programs for the teaching of the English Language, topics related to the axes of Environmental and Sustainable Education are presented and which are an occasion for activities in this direction

- B) What topics that promote the concept of Sustainability are found in the English language textbooks for C, D, E and F Greek Primary School students?

The themes identified during the research are the following: nature, environment, animals, endangered species, health, nutrition, city and countryside, recycling. The specific topics are repeated in most classes, while they are significantly less in the 6th grade textbook

- C) How could the promotion of the element of Sustainability be strengthened in the context of teaching English to Greek Primary School students?

Environmental Education is a goal for modern teachers, as the need to protect the environment and natural resources is more important than ever.

Therefore, teachers can set goals for each of their teaching and objectives related to Sustainability, in addition to language learning, such as raising students' awareness of the environment, cultivating skills to develop ecological behavior, reducing the footprint, caring for animals, information on good nutrition, poverty, hunger, equalities-inequalities, justice, life in water and on land.

Suggested Teaching Scenario

Teaching framework

Class: F Class

Thematic section: Food Pyramid – Poverty – World Hunger

Teaching aids: teaching manual (English Language School Manual), blackboard, booklets with exercises, Greek-English dictionary.

Teaching time: 90 minutes (2 teaching units)

Teaching objectives

At the end of the course, students are expected to:

1. To have mastered and consolidated the new vocabulary, which concerns food and eating habits.
2. To raise awareness of nutrition issues and understand the importance of healthy nutrition for humans and the environment.
3. To raise awareness of issues of poverty, hunger, empathy, giving and giving.
4. To be able to write a short text in the English language on the topic of healthy eating - Production of written speech.

Teaching process - Activities

Call of Interest - Inference:

The teacher shows the students the picture of the school textbook showing the food pyramid and explains its meaning,

He then asks the students to identify the foods pictured and report how many times a day or week they eat them. Unknown words (new food vocabulary) are marked on the board.

The teacher then asks the students to verbally describe in English which nutritional model the food pyramid suggests.

The new words are written on the board and in the students' notebooks. The vocabulary related to nutrition is thus supplemented and enriched.

Incorporation – Recapitulation:

The teacher reads the new vocabulary to the students and asks them to repeat it orally in groups, so that they become familiar with the pronunciation of the words.

To be informed about the 17 goals of Sustainable Development

To gain knowledge and sensitize on issues of deprivation, poverty, hunger, empathy, giving and giving.

To learn about the program "In action for a better world" and UNICEF

Finally, he hands out to the children two booklets with exercises for consolidation. Exercises include filling in the names of the foods on the food pyramid and producing text.

Evaluation

Concurrent

With students' oral participation and classroom exercises.

Final

With homework.

Homework

1. Write in your notebook a few words about "My daily diet" in English (written speech production)
2. What are the main food groups and what are they called in English?

Additional material

The World's Greatest Lesson - in action for a better world

<https://www.unicef.org/>

UNICEF: children's stories

<http://attik-old.pde.sch.gr/6pekes/images/aeiforia/lostfood.pdf>

Educational activities for food waste prevention: "Don't let food go to waste!"

We are the World Lyrics || We are the Children || Graduation Song || For Children

<https://www.youtube.com/watch?v=HqjYoUbmAPs>

Conclusions

The English textbooks include to a significant extent topics related to issues that are part of Environmental and less Sustainable Education in general. In addition, the objectives of the textbooks for C, D, E and F Greek Primary School Classes which were studied, are in agreement with the objectives of the Environmental Development Guide. Sustainability in Greece, despite the fact that the Detailed Study Programs and Interdisciplinary Unified Framework of Study Programs, as well as the school textbooks partially highlight the specific concept, has not yet completed the necessary steps, while the actions of the school and the teachers are considered necessary, so that the students are aware on sustainable issues.

We consider that a further more specialized research, after the arrival of the new study program "Environment and Education for Sustainable Development for Primary and Secondary Education" in relation to the English course would be of great interest.

References

- [1]. Abroms LC, Padmanabhan N, Thaweethai L, & Phillips T. (2011). iPhone Apps for Smoking Cessation: A content analysis. *American Journal of Preventive Medicine*. 40(3):279-285.
- [2]. Berelson, Bernard (1952). *Content Analysis in Communication Research*. New York: Free Press, 1952.
- [3]. Busha, Charles H. and Stephen P. Harter (1980). *Research Methods in Librarianship: Techniques and Interpretation*. New York: Academic Press, 1980.
- [4]. de Sola Pool, Ithiel (1959). *Trends in Content Analysis*. Urbana: University of Illinois Press, 1959.
- [5]. CEF (2022), *What is Environmental Education?*, CEF.
- [6]. Elo S, Kaarianinen M, Kanste O, Polkki R, Utriainen K, & Kyngas H. (2014). Qualitative Content Analysis: A focus on trustworthiness. *Sage Open*. 4:1-10.
- [7]. Fielding, NG & Lee, RM. *Using Computers in Qualitative Research*. SAGE Publications 1991. (Refer to Chapter by Seidel, J. 'Method and Madness in the Application of Computer Technology to Qualitative Data Analysis'.)
- [8]. Gough, A., (2005). *Sustainable schools: Renovating educational processes*. *Applied Environmental Education and Communication*, 4.
- [9]. Hsieh HF & Shannon SE. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*. 15(9): 1277-1288.
- [10]. Huckle, J. (2006) Education for Sustainable Development: A Briefing Paper for the Training and Development Agency for Schools. <http://www.ttrb.ac.uk/Browse2.aspx?anchorId=14633&selectedId=14634>
- [11]. Krippendorff, Klaus. (1980) *Content Analysis: An Introduction to its Methodology*. Beverly Hills: Sage Publications.
- [12]. Owen P. (2012). Portrayals of Schizophrenia by Entertainment Media: A Content Analysis of Contemporary Movies. *Psychiatric Services*. 63:655-659.
- [13]. Ullstrom S, Sachs MA, Hansson J, Ovretveit J, & Brommels M. (2014). Suffering in Silence: a qualitative study of second victims of adverse events. *British Medical Journal, Quality & Safety Issue*. 23:325-331.
- [14]. EPA (2022), *What is Environmental Education*, United States Environmental Protection Agency.
- [15]. UNESCO Website *Education-for-Sustainable-Development*: <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/>