Ecological Footprint: A Key Concept for Changing Consumption Patterns of Children and Adolescents

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Abstract

Children are raised in a consumer society. From the TV commercials to the lifestyle patterns promoted by the media and the popular cutlure, the message that comes across is "consume". Quality of life is often identified with accumulation of goods. Goods and services, however, cost the planet natural resources, pollution, CO_2 emissions and an increasing amount of waste. Children (and sometimes adults as well) fail to see the connection between their consumption patterns and the environmental problems.

WWF Greece has been working with schools on ecological footprint and consumption for three years.Our service to the school communities is (a) provision of free on-line education material, (b) workshops for students at schools and (c) "train-the-trainers" workshops for teachers.We work in close collaboration with the Ministry of Education and its local bureaux. Evaluation of our work is being made through direct observation, questionnaires for teachers and students, oral questions to the group after a presentation, drawings or drama activities for personal expression for children of pre-school education.

We shall present the workshop on ecological footprint and consumption addressed to pupils 9+ with an emphasis on methods, practices and education tools that work. In brief, the elements that make the programs work are: the element of surprise, non-conventional teaching methods, personal involvement of every student, team work, a limited time horizon for every task to be completed, using pictures as a vocabulary to approach difficult concepts and procedures, and linkng information to personal values, attitudes and habits.

Can environmental education change consumption patterns and value systems in a globalized economy that is based on an ever growing consumption? In this context, economic crisis might prove an opportunity for change and environmental education must explore ways to make the link between the environmental and the economic aspect of a sustainable future.

The concept behind the environmental education program.

Children, adolescents and adults are raised in a consumer society. From the TV commercials to the lifestyle patterns promoted by the media and the popular cutlure, the message that comes across is "consume". Quality of life, even happiness, is often identified with accumulation of goods. "Shopping therapy" is a well established term.

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Goods posses qualities that are automatically attributed to the owner. The pressure to purchase constantly new things is such, that the dinstinction between a real need and a wish is obscured. The whole economy and society is based on a vicious circle between consumption, work, more consumption, more work to earn more money to buy more things etc. (Leonard 2011) From the Ancient Greek word"Agora" (a place where people would meet to discuss mainly political issues) to the "Agora" of Modern Greek (Market), the distance is some thousands of years of change in priorities, systems and values.

Goods and services, however, cost the planet natural resources, pollution, CO_2 emissions and an increasing amount of waste. Children, young people (and adults as well) fail to see the connection between their consumption patterns and the environmental problems. It is indeed difficult to understand the way in which our cotton T shirt affects water resources and ecosystems (WWF Greece 2011). It is also difficult and inconvenient to think, in every bite of our hamburger, the cost of this food to climate change and water resources.

The concept of ecological footprint is most helpful in our effort to picture the consequences of over-consumption to our planet. The ecological footprint measures how much land and water area a human population requires to produce the resource it consumes and to absorb its carbon dioxide emissions and waste, using prevailing technology.
(Global Footprint Network 2011). The ecological footprint (of a person, a school, a household, a state, etc.) can be measured. It can easily be pictured. The amount of planets our humanity needs to satisfy its needs is a picture that is easily understood. It is an alarming picture that stays in mind.

Carbon footprint focuses on CO_2 emissions. It is also a very important concept since climate change is the most urgent environmental issue of our planet.

In view of the major role of over-consumption in environmental issues and the useful concept of "ecological footprint" and "carbon footprint", we have designed environmental education material, workshops for pupils and "train the trainers" workshops with the aim to change consumption patterns. The workshop for students we describe below is a characteristic example of this environmental education program.

Capturing the attention of the class.

Experience and literature on pedagogies (Geyford 2010) confirm that learners are bored of sitting down for long hours and listening to yet another lecture by a teacher. The learning experience must be participatory, with the role of the facilitator gradually diminishing in favour of the role of the participants. Passive attendance of a classic presentation should be replaced by active participation in an interactive workshop.

A key element to create a successful workshop is to change the structure of the class, literally and metaphorically. If the workshop cannot take place outdoors, we re-arragne the classroom before the students come in a “Π” shape arrangement of the chairs. Alternatively, an arrangement in small groups works equally well for teenagers. For primary education pupils we prefer to sit on the floor in a semi circle before breaking in small groups. The change of the setting creates a sense of anticipation to the pupils and breaks the usual “hierarchy” of the classroom. We are now ready for action.

“Ecological footprint: How would you describe this concept in a picture?”

It is important not to ask for a definition, which is really difficult, and not to ask for a right answer “What is Ecological Footprint?” is the wrong question. Asking for a personal description leaves room for active thinking without the fear of giving the wrong answer. Learners break in teams and make a drawing of their interpretation of ecological footprint. They are given 10’ for this activity which is always a liberating factor. They cannot spend too much time in discussions. The facilitator checks the procedure. He/she does not intervene unless he/she sees that there are major misunderstandings.

The drawings are put up on the wall and a representative of each group presents in two minutes their work. We compare the drawings. The facilitator highlights the most important and closer to the meaning of the ecological footprint elements. Usually learners draw the Earth in the shape of a half-eaten apple or something similar. The drawings is an excellent basis for a full description of the concept. The facilitator writes key words that are central to ecological footprint.

The group is now ready to deal with the conept of ecological footprint in more detail. A clever and humorous representation of the ecological footprint of Greece (WWF Greece 2010) is shown to the learners. It pictures a Greek “souvlaki”. The small pieces of meat are replaced by three planets. It is planet Earth. What do the learners think that this picture stands for? Learners are usually surprised, they laugh, then they start to guess. The facilitator in the end explains the meaning of the picture: the ecological footprint of Greece is three planets. This is impressing. We start to guess why our footprint is so big.

We proceed with the definition of Ecological Footrpint, although we focus on a simplified version of it: “the resources we need to live the way we live”. For example? The examples are to be given by the learners.

Every learner draws his/her footprint on a piece of paper. Inside the footprint and outside of it, if space is not enough, they have to write activities and actions they do in their everyday life that require natural resourses.

As learners try to think, they realize that practically every thing they do require natural resources. Our footprints are put up on the wall, in a different section. This is the footprint of this classroom.

A world of inequalities.

“Do all countries of the world have the same footprint?” What do the learners think? The facilitator distributes to the learners a map of the world that pictures the economic state of the world. (The World Bank 2011).The size of the countries is not the real one, but the one that corresponds to its share in consumption. What is wrong with this

map? Learners usually find the answer by observing Africa which is disproportionately smaller than the other continents.

Which countries do the learners think have a bigger ecological footprint? Learners link consumption with the ecological footprint. The facilitator shows diagrams of the footprint of diffirent countries and of the humanity as a total (WWF Global 2010). Humanity needs one and a half planet to satisfy its needs. We, therefore, “steal” resources from future generations.

“People in the developed world consume 30 times more than people in the developing world. Imagine a person with 30 mouths and another one with one mouth. How do we feel about it? Is there any connection between our lifestyles and theirs? Is it any good if we stop over-consuming? If we do not throw our food away, for example, how does it help people in the developing world?” The facilitator is provocative and realistic, he/she is not supposed to make moral judgements. Learners do not want another “moral lesson” from an adult. Facts and figures can tell a more convincing story.

Understanding and changing our consumption patterns.

The facilitator asks the learners to choose between a T shirt and hamburger. What would they prefer as a small gift? Learners team up according to their choice. The “hamburger team” and the “T shirt team” have to discuss and present the life cycle of the product highlighting the natural resources required and the impact of the production on the environment. Learners are asked to be creative in their presentation using drama play, drawings, pantomime, etc. They may also present an alternative advertisement of the product informing the consumer the pros and cons of his/her choice. At this point, after the instructions have been given, the facilitator shows a slide of the life cycle of another product, such as an aluminium can of a refreshment drink. (WWF Greece 2010) Pupils are impressed by the amount of water used and the CO_2 emissions and toxic waste of the procedure. There are also many different stages of the production with tracks and airplanes and five different factories that transport and process the raw material before we get the aluminium can. The life cycle of the can include storage, consumption and disposal of the product. The full picture of the ecological footprint of the can is displayed. In Greece we use 1 billion aluminium cans per year. Learners start to approach the footprint of our consumer society.They discuss and they present the story of their product before they get facts and figures of the ecological footprint of a T Shirt and a hamburger(WWF Greece 2011).

Finally learners break in small reflection teams to discuss the power of the consumer. Can the consumer have an impact on the ecological footprint of the society? To what degree is the system designed to lead to over-consumption? In what ways can the advertisements and the media make us confuse our needs with our wishes? If consumption is necessary for survival, can we trace symptoms of over-consumption in our every day habits and eliminate them in order to reduce our footprint? Is economic crisis an opportunity for change? Can we visualize an alterantive economy where happiness and non monetary values are included in the Gross National Product? (These last questions are presented to pupils 12+.)

If the class is interested and involved, we may play other games to help the students realize the distinction between needs and wishes. Each team takes a bag with pieces of paper that describe goods, i.e. “Play station”, “Milk”, “Water”, etc. They have to arrange the papers in two categories: needs and wishes.

The workshop has different variations to suit the needs of different age groups.

Conclusion

Working with pupils in a workshop format, with interactive games and creative ways of expression, avoiding lectures and giving just the necessary information for them to carry on a certain task, acting as a facilitator of the group rather than a teacher, are elements that motivate the learners. The best evaluation is observation. The facilitator knows if the group is involved by observing the degree of participation and creativity. The question is, even if the group works well and gets motivated, do we achieve a change in consumption patterns? Will they be more informed and conscious consumers? We may hope that some of them may make more informed choices: organic products, recyclable products, local and seasonal food instead of imported out of season products, etc. They make their own list of ideas in the workshop but change of behavior is not easy. At least when they see an aluminium can, a T shirt or a hamburger they will know their stories and their ecological footprint. We have, however, to consider that we live in fast changing society. We have to explore the challenges the economic crisis presents for environmental education and the effort to reduce the ecological footprint of humanity.

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