

CHANGING EDUCATION IN A CHANGING WORLD

- the case of environmental education –

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Introduction

Today we are talking about the consequences of the great societal changes of our time for educational practices today. Indeed, education and society are two quite interlocked areas. And changes in societal structures do usually lead to changes in educational practices. Nevertheless the relationship between changes in society and changes in education is not always clear. Even the question may be asked whether changes in education are always the proper answers to changes in the structure of society. In this lecture I will give an analysis of the different educational answers that were given to the change from a rural society, that is living in harmony with its natural environment, into an urban-industrial society surrounded by a polluted and disturbed environment.

In this great societal change one can distinguish the influence of two great lines of development: one development leading to environmental destruction and another leading to the rise of an urban society. Both are closely related to the coming of our modern western society. Both developments of societal modernisation ask for proper answers of educational reform. The question is whether people in educational practices succeeded in giving such answers.

A time of environmental destruction.

In our time we are facing an enormous environmental destruction. The ecological crisis reaches from the world-wide problems like the greenhouse-effect,

destruction of the ozone-layer, rising of the sea-level and other great, threatening problems to the smaller, but not less harmful problems like chemical-garbage-spill, which threatens drinking-water supply or small nuclear accidents, which kills one ecosystem or another. Background of this development is often sought in the coming of our modern urban-industrial society. Since the industrial revolution there has been an enormous grow in exploitation of natural resources, which seemed to be inexhaustible, and in the idea of the unlimited possibilities which seemed to be in reach of mankind. In nearly all ways of thinking about rescuing the environment, a central place is given to environmental education. The mistakes of this generation should not be reproduced by the one to come.

In environmental education two quite different answers are given to this situation of environmental destruction.

On the one hand people expect the solution of environmental problems from the development of science and technology. So children should be trained in this science and modern technology in order to equip them with instruments for solving ecological problems.

On the other hand the cause of ecological problems is sought in the role that science and technology play in our society. The development of science and technology in our time has initiated the extensive environmental destruction. So the culture of this generation would be too destructive to teach to the children. There is no believe anymore in the power of modern culture and no support for the continuity of that culture. On the contrary, there is a believe in the gap between the generations and the need for a new culture. Children should build their own new society, based on love and respect for nature and environment and should not be bothered by the faults and destructive technology of the present generation. The present generation has made great mistakes and so it has nothing to say to the coming one any more.

What we see is a great and critical change in the structure of society leading to an educational problem. We also see two quite opposite answers, both sounding plausible, given to this problem. However, at closer examination, both solutions turn out to be shortcoming. On the one hand we can train our children for more technology. But the question may be asked whether this technology will solve the problems or just destruct the environment that was left. On the other hand we can give up education at all and leave the future to the children. But in that case we fail as educators who have the responsibility to teach children how to live, even in a society destructed by ourselves.

Solutions for environmental problems can only be found in a combination of both answers. So a synthesis between the two should be found. Of course children do need training in technology in a society which is technology. But they also need to know about the beauty and vulnerability of nature, so that they can make a critical judgement by themselves. This does require an education which is neither simply training in technology nor just showing children the beauty of nature, it requires a combination of both.

But this combination is not unproblematic. Training in science and technology is not the problem. Our schools are didactically well equipped to do so. But bringing children in contact with tangible nature is not an easy task in a modern society. A second structural societal change hampers the possibilities of this type of education.

Child rearing in the city

To develop love and understanding of the environment, there is a necessity of a personal perception of the environment by the children. However in modern society children don't meet tangible nature anymore. The development of society is quite the other way.

In the pre-industrial times things were quite different. In formerly rural-agrarian societies children grew up in a natural environment that did not reach beyond the region of their own village. But in our modern society the place where children grow up is not just a village anymore, but has grown out to what is called a 'global village'. Thanks to communication and transports we are neighbours of the people at the other side of the world. What we do here has its consequences over there. So children should learn, not only about tangible nature in their own environment, but actually about environments all over the world. That is their global environment now.

Beyond that, most children in our modern urban-industrial society are not growing up in rural villages, but they are living in urban areas, where they are not able to experience tangible nature at all. Recent research shows how children in big cities do know about the great environmental problems caused by modern technology, but they are completely ignorant about the beauty of tangible nature.

Both developments, urbanisation and globalisation, hamper the environmental education that wants to show children the vulnerability and beauty of tangible

nature, a nature that is not present in the experience-space of the children anymore. Both developments express the urge for new educational answers.

I think, even for environmental education, modern society brings us back to the classroom-education where storytelling, books, films and photographs bring the entire world within reach. Where a pedagogy of direct experience fails as a result of the immense scale-enlargement of our time – a scale on which also the most ecological problems can be found – a pedagogy of ‘representation’ seems to be inevitable. By this, new challenges for didactics of environmental education come in sight.

Conclusion

What I wanted to illustrate in this short paper by the way of the example of environmental education is firstly the close relationship between societal change and educational reform. Secondly I wanted to show the necessity of a close analyses of societal change along which it is possible to come to the proper educational change. A continuing discussion about the place of education in a changing society is needed because only in this way an outdated education and simplified solutions for serious educational problems can be prohibited.

This presentation only gives an introduction to the research-project into Dutch environmental education that was carried out at the Utrecht University as a part of the research-program "Cultuurpedagogiek".

The research-project was financed by de Dutch Department of Agriculture, Nature and Fishery.

A short summary of the results of this project is added as an appendix to this text.

Research into curriculum and didactics of Dutch environmental education *
(1991 – 1997)

- Summary of results -

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In the discussion on environmental education in the Netherlands, two concepts are the most influential. In the discussion they are termed the ‘green’ and the ‘grey’ variants of environmental education. ‘Green’ environmental education stems from the nature-conservation movement and aims at stimulating people to love and protect nature. Hence, personal experience of nature is a central aspect of this concept. ‘Grey’ environmental education, on the other hand, has its roots in the ecology-movement and focuses on stimulating people to contribute to the solution of environmental problems. People should contemplate the environmental consequences of their own daily behaviour. Central to this variant is the concept of reflection.

In the discussions on environmental education in the Netherlands two central themes can be discerned. The first has to do with the tension between the concept of ‘nature’ on the one hand and ‘environment’ on the other. Central to this discussion is the fundamental question whether man is part of the environment and therefore inevitably influences the environment in a positive or negative way, or that man is no part of nature, but as an outsider frequently disturbing the natural situation in nature.

The second theme concerns the tension between the interests of the child and the interests of nature and environment in environmental education. On the one hand children should be influenced so that they will act in an ecologically sound way and on the other hand children should be brought up to become autonomous persons.

The two mainstream variants of environmental education, ‘grey’ and ‘green’, claim to do both. They cover both nature and environment, doing justice to both

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the child and nature/environment. Although the two concepts have corresponding pretensions in this field, there are remarkable differences between them. On closer examination we discover that the two variants of environmental education differ in a fundamental way. 'Grey' environmental education views man as part of the environment, reflecting on his own position in the environment, while in the 'green' variant man is no part of nature. He is an outsider, experiencing nature. Furthermore, 'green' aims at experiencing the values of nature, while 'grey' focuses on scientific knowledge of the causes of environmental problems. Where 'grey' consequently stresses reflection on human behaviour, 'green' underlines the pre-reflective experience of nature. 'Grey' and 'green', in spite of their claiming to be one great mainstream environmental education, can be distinguished as two completely different variants of environmental education.

However the differences so far are found on a more theoretical level, the most radical difference between the two can only be discerned on a more practical level. The 'green' variant is concerned with experiencing nature, aiming at bringing about an appreciation of nature's values in the child. Therefore, this type of environmental education is linked to personal presence in a natural setting, so that the beauty of tangible nature can be experienced. Conversely, the 'grey' type is linked to thinking about environmental problems which are often set on a super-regional or even global scale. Not firsthand experience, but scientific knowledge of the causes of environmental problems are the primary aim of this type of environmental education. Problems arise when we consider that the environmental problems of which 'grey' speaks are set on a completely different spatial scale than 'green's' tangible nature. Consequently 'grey' and 'green' are not talking about the same subject matter. Therefore on this practical level 'grey' and 'green' are completely incompatible.

When we want to come to a real connection between the two variants of environmental education, it is first of all important to tackle the scale-problem in environmental education, so that 'grey' and 'green' are concerned with the same subject matter. Therefore we take a look at the work of three Dutch pedagogues Ligthart, Heimans and Thijsse, in order to find a solution for the scale-problem. These three Dutch schoolmasters were active in the field of environmental education even before the term existed. At the beginning of this century they developed a curriculum for nature-education, in which experiencing nature played a central part. The main difference with the 'green' environmental education of our days, is that these experiences were not exclusively connected to personal presence in tangible nature, but were evoked by telling vivid stories about nature and showing lively paintings of nature. By doing so, they were no longer tied to

the scale of tangible nature present in the educational situation at school or in its proximity. Instead the *representation* of tangible nature played a central role in these educational practices.

When we examine the background to the differences between mainstream environmental education nowadays on the one hand, and the work of Ligthart, Heimans and Thijsse on the other, it appears that the essence of the distinction between the two lies in the way they translate the social and ecological problems concerning nature and environment to the educational situation in the school. In current environmental education the translation is made in *one* step. In the classroom children should be taught to act in an ecologically sound way. The principal question then becomes a *didactical* one, namely: *how* to teach them. In that context personal experiences of tangible nature arise on the one hand, and ecological theories focusing on the causes of environmental problems on the other. Due to this emphasis on the didactical side of the problem, the spatial scale-problem sneaks unnoticed into the practice of environmental education.

In the work of Ligthart, Heimans and Thijsse, however, the translation of the societal problem of damage to nature and environment to the classroom situation is made in *two* steps. First they pose the question *what* children should know about nature and the environment to be able to act in an ecologically sound way. This is the question for the *curriculum*. Only after answering this question they will implement the subject-matter in the classroom and ask *how* children might be taught these contents. Knowing that knowledge is needed from natural environments all over the world, picture, photograph and schoolbook come forth automatically. By taking these two steps Ligthart, Heimans and Thijsse are able to avoid the problems arising from the present approaches to environmental education.

Dutch 'grey' and 'green' environmental education are not immediately compatible and should therefore not be implemented in formal education without a serious discussion at the level of the curriculum, just to do right to child, nature and environment.

An adjusted version of this text is part of the book
"Nieuwe wereldburgers, aantasting van natuur en milieu als vraagstuk van algemene vorming,
een zaakpedagogiek" (J.M. Praamsma, Utrecht 1997)