

# Critical thinking: a central element in developing action competence in health and environmental education

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## Abstract

In the field of educational philosophy, health and environmental education share many common goals and challenges on the level of curriculum theorizing as well as the level of pedagogical practice. One of these challenges is to develop a radical philosophy of education which is critical and takes a controversial point of departure rather than the one of accommodation. It highlights, in other words, the socially critical role of education. From this point of view some key concepts are discussed in the paper in relation to health and environmental education: democracy as means and end, critical thinking, the critical orientation, and the action perspective. One of these concepts, critical thinking, is elaborated in particular as it is considered to be essential to pupils' development of action competence. A description is given how it can be seen from four perspectives: the epistemological, the transformative, the dialectical and the holistic

## Introduction

Environmental and health education share many educational means and ends. As argued by Spork it is almost impossible to separate environmental and health education in that they both deal with the *inter-relatedness of issues of social justice and ecological sustainability* (1993, p. 10.1). The health

of individuals (the personal environment), the health of communities (the social environment) and the health of the natural environment are inextricably linked, she claims.

The two fields can thus build on and strengthen each other considerably in the area of teaching content. In relation to overall educational aims, they also share a common goal in developing the pupils' critical thinking abilities. Following Spork's argument, this entails developing in pupils a reflective and critical approach to the structural levels of society, as well as the scientific and the personal levels, and the connections between them. For example, the development of critical thinking skills could help pupils realize and explain possible decreases in clean drinking water and the potential dangers to individual health are related to the difficult situation farmers are put in when forced to use crop sprays in large quantities due to free market forces in agriculture. Hence, it implies that the consideration of one of the levels is linked to, and demands considerations of, the others as well—an idea earlier expressed as the 'sociological imagination' by C. Wright Mills (1959).

Environmental and health education also share a common responsibility for developing the ability, responsibility and motivation of pupils to involve themselves in future problems. It entails developing their intellectual capacity and motivation to take an active part and participate in solutions to them. In other words, the teaching must aim to develop the pupils' action competence.

This paper deals with developing critical thinking and action competence in relation to environmental and health education. In particular, it discusses how the pedagogical concept of 'critical thinking' can be justified, encircled and determined.

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## **The challenge on health and environmental education**

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Environmental and health education do not only share common educational goals but also—partly because of this—some of the same problems. In the field of health education Jensen (1995, p.152, this issue also) states that moralistic health education is the predominant way of teaching and he argues that it has a questionable ethical basis because behavioural changes are made the primary goal and must be achieved by all means, while the pupils' acquisition of knowledge and their own decision are given less priority.

In the same way environmental education is often only evaluated in terms of how well it alters the pupils individual behaviours, e.g. participating in recycling of waste at home or in the school (Breiting, 1995). Less emphasis is given to whether the pupils have qualified their understanding of the environmental problem as conflicting interests, their capability to take a stand on them, their capability to discuss possible changes and their motivation to take an active part in the solutions to them.

Certainly, behaviour modification cannot be the basis of education and must be removed from the educational agenda. What is the alternative?

Firstly, if education is seen as qualifying the future generation for participation in a democratic society then it, among other things, means that the teacher must share responsibility for the teaching process with the pupils, not make all the decisions and not give all the answers to the questions—even supposing s/he has got them! Of course, sometimes the teacher has to cut through and make a decision—but nevertheless s/he has an obligation to involve the pupils in the decision-making process in order to train them to this difficult task. If not, the goal of qualifying the coming generation for a democratic society has a rather hollow sound.

Secondly, an important task of education is to help pupils realize that it is crucial to their lives to be curious, and be able and committed and question things around them, scientific phenomena as well as societal structures and conditions. On a

concrete level, this entails asking for reasons why things are the way they are and why others (and oneself) act as they do. In other words, it entails developing the children as critical thinkers.

A third point is that education needs to be critical and transformative in a non-prescribing, deterministic manner. This critical democratic perspective has a 'revolutionary' intention, i.e. the scientific theories, theoretical concepts, and fundamental values and interest-based elements of health and environmental problems must be continuously questioned. Seen in this perspective, it is a great task to develop a radical philosophy of education which is critical and takes a controversial point of departure rather than one of accommodation. It highlights, in other words, the socially critical role of education. To put it in another, perhaps provocative way, as suggested by Maher (1985, p.25) in the field of environmental issues, education must seek to promote what she calls 'dangerous knowledge':

Environmental education deals with topics which are present-day concerns and sources of conflict... Such issues form an integral, though not sole, part of environmental education and, as such, can be considered to represent school coverage of dangerous knowledge, knowledge which questions the interests and operations of certain groups in society.

This points to the view that the future teaching process is just as much a search for meaning as it is a search for knowledge. Perhaps, it seems more and more important that the value aspect in the teaching and learning process becomes central. In environmental education it is not the finding of solutions of a technical nature that really matters. This type of solutions is rarely lacking. The question is rather one of choosing among accessible solutions and making a qualified choice.

Finally, if health and environmental problems are to be solved in the long run, then teaching must emphasize the interventionist and action perspective by increasing the pupils' abilities and will to influence and take part in solving future health and environmental problems. Although what the

'good' action is can be an ongoing educational discussion, it is nevertheless true that it helps only a little with knowledge and convictions if these dimensions ultimately are not transformed into some kind of action. It is action on the basis of comprehensive reflections which decisively changes the conditions of human life.

### **The complementarity of critique and possibility**

Although the critical approach to health and environmental education is underpinned by an understanding of the value of teaching about controversial issues this it not to say that teaching needs to promote pessimism, apathy or unnecessary fear. Admittedly, the possibility is present when teaching arises from such issues as social disharmony, reduced living conditions, disagreements and conflicts. In addition, when working with such issues pupils often will learn that conflicts are rooted in forces and powers which at first sight they feel powerless to resist.

However, if we really want to help pupils understand the world they live in, there is no option but to bring them face to face with controversial issues by working with them. It is not a matter of whether the children have or have not become aware of the existence of environmental and health problems. They have. Furthermore, it just postpones the problems, pedagogical and human, if we avoid working with the conflict perspective in health and environmental education. By doing that we certainly do not qualify children to cope with them; rather, we escape from our responsibility as educators.

Seen in this way, the educational question is not whether we should or should not work with controversial issues. We are bound to. It becomes more a question of how can we help them to develop competence to act on the problems, and how can we do it without leaving them resigned and worrying. One central point here is that it is necessary to complement the 'language of critique' which can contribute to clarification of problems with a 'language of possibility' which can contrib-

ute to making the solution both meaningful and possible (Giroux, 1988; Fien, 1993). Giroux (1988, p. 134) claims:

It is important to recognize that although educators often refuse, subvert, and, where necessary, critically appropriate dominant forms of knowledge, this does not mean that they should continue working exclusively within the language of critique. On the contrary, the major thrust of a critical pedagogy should centre on generating knowledge that presents concrete possibilities for empowering people. To put it more specifically, a critical pedagogy needs a language of possibility.

This complementarity of critique and possibility can be encouraged by taking real problems, including persons in 'flesh and blood', as the starting point in education. Through such an approach, pupils, together with a responsible teacher, can find relevance and coherence in their learning and teaching because of the authentic attachment to the real world outside the classroom, and because the pupils, in such situations, often will realize that adults respect them and care to speak and listen seriously to them.

Another justification for both a language of critique and possibility is the critical thinking skills and abilities children can develop by examining and working with conflicting problems—experiences which can help to demystify controversial issues. By learning to consider evidence, searching for relevant information, questioning the validity of sources of information, analysing assumptions, detecting bias, exploring alternatives, and presenting their own viewpoints and action possibilities, pupils can not only understand issues better and deeper but also engage in dealing with environmental problems in a more non-worrying and non-threatening way than through many alternative approaches.

At the same time, the social abilities and skills of communication, listening, working collaboratively and cooperating can be enhanced in ways which can turn the pessimistic perspective into a more positive one.

As a conclusion then, some of the key themes in relation to the challenges on health and environmental education include: democracy as means and end, critical thinking, the critical orientation, the action perspective, and the complementarity of critique and possibility. Critical thinking is thought to encourage this complementarity.

Critical thinking thus plays an important role in education. But how can it be understood and how can it be justified? The following passages try to shed some light on these questions.

### **Towards an encirclement of critical thinking**

The concept of critical thinking described in this paper has been elaborated in different theoretical contexts. It can be maintained that the Danish version of a critical thinking theory in environmental and health education can be traced back to at least two different, and partly independent of each other, broad theoretical traditions. The first of these is cognitive-centred, and is especially represented by the Americans Richard Paul (e.g. 1992) and Harvey Siegel (e.g. 1988)—both connected with the ‘Critical Thinking Movement’ in the USA. The central figures in the other approach with roots in critical theory and the Frankfurt School are the Americans Henry Giroux (e.g. 1988) and Steven Brookfield (1987), and the Australian John Fien (e.g. 1993).

Generally, critical thinking is not merely a particular way of thinking nor does it denote a specially refined ‘thinking technique’ which is particularly suited to solving problems. In this context critical thinking is to be understood as a coherent theoretical construction which does include the latter dimension, but which also implies views of the direction and content of thinking. In the foreground for this is the belief that critical thinking and emancipation are coherent. It is on the belief that traditions and structures in society, and the corresponding knowledge systems are not just phenomena which are to be reproduced without being critically analysed and, if pupils think it appropriate, opposed. They are dimensions which constantly must be investigated, assessed and changed by actions if pupils think it necessary.

Furthermore, critical thinking aims at identifying and challenging what is in existence, simply because it exists. This means, among other things, recognizing that what exists is always encapsulated in cultural and historical contexts. Critical reflections should reach an understanding of how these contexts have influenced the thinker. From this basis, critical thinking should develop the ability to imagine alternatives and propose possible modes of action. Critical thinking is visionary thinking.

It must be stressed that critical thinking is not to be conceived as negative scepticism of all and everything. A critical thinker is not a ‘no man’. As indicated earlier we need to couple the critical process of reflection with a sympathetic and optimistic vision of ‘possibility’.

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### **Critical thinking**

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From this point of departure critical thinking shall be defined in the following way in which the first part describes the central core of the concept and the last part indicates the area the concept covers (Mogensen, 1995, p. 239):

- Critical thinking is reflective and evaluative thinking which must lead to a reasoned judgement.
- Critical thinking is a concept which in its totality encompasses an epistemological, a transformative, a dialectic and a holistic view.

The aspects of reasoning and judgement are the ultimate objectives of critical thinking. It appears particularly apt in connection with action competence because choice of action possibilities assumes a kind of intentionality. The action is directed towards something and has a reason for that direction. A frame of substantiates—a number of criteria, reasons—which explains why one has decided to do as one is doing, must be developed and generated. Habits, customs, religions, prejudices, etc., are innumerable in connection with the choice of action possibilities when the issue is health and environmental problems, simply because it is just these habits and customs, etc.,

which are part of the cause of the problematic situation.

However, it is not sufficient to stress taking a stand *per se*—without stating why and on what bases this position is founded. Some conditions for directions towards development are more important than others. Therefore, some aspects or views of the content of thought must be indicated. With this in mind critical thinking ought to be understood from four perspectives which are to be explained in the following sections. These are the (1) epistemological, (2) transformative, (3) dialogical and (4) holistic perspectives.

### The epistemological perspective

Understanding is not gained by the transfer of knowledge in an end form to the individual. The epistemological perspectives underlines that understanding is gained by the individual him/herself when actively examining and questioning the world around him/her. It is the reflecting, i.e. thinking and thinking about thinking itself, that develops human understanding.

The epistemological perspective also implies that qualified thought has a form so that we can speak of critical thinking as involving a skills dimension or a definite mode of performing thought activity. It concerns, among others, identifying factual as well as normative aspects of a problem; explaining and understanding these aspects in a historical and structural context, and analysing and assessing them with the aim of developing visions of possible action strategies, as appropriate.

This means that the pupils, themselves, seek out and talk to those involved in a health or environmental issue and listen to their arguments—the fisherman and the farmer perhaps, if the case is fertilizers polluting water. They would interview ordinary people about their opinions. They would seek out so-called experts and question them, and ask for their predictions. They would look for the historical roots of the issue, e.g. by talking to elderly people, and they would make scientific experiments which can expose the way the nature and ecological cycles have responded to human influences.

It is also important that the pupils have experience in practising the action dimension, e.g. by giving voice to their proposals at public meetings or in newspapers. However, it is important that these actions are placed within an educational framework. Actions must first and foremost be seen in relation to their educational value and not in relation to any objective meaning they might have. Basically, it cannot be the task of school children, nor their responsibility, to repair the damages to society and natural resources caused by adults.

On the other hand, it is highly significant that, through their actions the pupils can become wise to the mechanisms, phenomena and barriers that are connected with solutions to health and environmental problems. Carrying out actions provides understanding on many levels. Its initial concern is, of course, a factual understanding of the case and the action process. However, there is also the meta-knowledge which is acquired by having been personally involved in solving a real-world problem. This can develop confidence in personal and communal action as well as an appreciation that it helps to get involved. This is a kind of understanding that cannot directly be made explicit but which, nevertheless, is not less true or of significance.

### The transformative perspective

The second central perspective of critical thinking is the transformative. Transformations can take place on several different levels of abstraction, e.g. on an individual and a structural level. On the one side, it points towards changes of the 'inner' dimensions, such as attitudes and values maintained by the person. It is the individual who is the 'target' of transformation—the transformation of personal life styles.

The transformative concept also points towards change on the structural level. Of course, individual changes can, to some extent, contribute to solutions to health and environmental problems. We can put one's own house in order, we can take the bus rather than the car, we can reduce the use of hot water, etc.

Nevertheless, in the long run, this is it not sufficient. Changes which really matter must involve and influence more fundamental mechanisms and powers than those which are connected to the individual person. Transformations on the structural level entail changing political, economic, environmental or social structures and mechanisms. This concerns the whole ideological basis on which the existing society is built. In this sense the transformative perspective points to the level of living conditions.

Thus, changes in both lifestyle and living conditions must be included in any discussion of transformation. 'Community' is a key concept because it functions as the safest assurance against one irresponsible, unjust and unsustainable structure or ideology simply being replaced by a corresponding one. A sense of community necessitates the interpersonal processes to analysing practice as well as assessing alternative possibilities and strategies. If the community aspect is not in focus, there is a great danger that health and environmental problems will be privatized and left to the individual to solve. Individual actions in the field of such comprehensive problems often result in resignation, anxiety, powerlessness and action paralysis.

### **The dialectical perspective**

The dialectic perspective underlines two aspects of critical thinking. 'Dialectical' has at least two dictionary meanings. The first is what Henry Giroux calls the 'contextualization of information' (1978). This means critical thinking obliges the individual to look at a case from several points of view, to listen to other people's understanding, and treat them responsibly and fairly. In cases when many points of view show there are different conceptions of a given case, the dialectical perspective admits a recognition that knowledge is not only an objective phenomenon which is the same from all points of view and at all times. This supports the understanding that knowledge is dependent on latent interests and values.

The second meaning of 'dialectical' refers to the dynamic view that progress and development take place by constantly challenging, querying,

criticizing and breaking down parts of existing practice with the aim of reconstructing a new and alternative practice which is believed not to contain the deficiencies and errors that can be identified with existing ones. This dialectic perspective can only be maintained responsibly if it is assumed the critically thinking person has certain characteristics or predispositions. This is what Richard Paul calls 'the intellectual and moral virtues of the critical person' (1992, p. 261) and which corresponds with the views of Porter (1981) and Fien (1993). This aspect of critical thinking can develop qualities such as the following:

- The courage not to passively accept everything, but to actively participate in discussions and debates, i.e. a willingness to get involved.
- An ability to empathize, to appreciate other people's ways of thinking and their ideas, as well as an ability to decentre one's own views and see beyond one's own narrow sphere of interests.
- The will to apply consistent criteria of assessment to oneself and others.
- An awareness of the limits of one's own knowledge.
- The belief that arguing for a case can have positive effects.
- The will to persist despite great barriers and frustrations.

### **The holistic perspective**

The fourth perspective of critical thinking, the holistic, insists that critical thinking involves both feelings and reason. It does not accept that thinking is to be understood as a purely cognitive and intellectual matter without emotions, feelings and intuitions. Critical thinking is human rather than mechanical. Thus, critical thinking involves the integration of reason and feelings, a unity of cognition and emotion. These two human constituents of consciousness develop and support each other reciprocally (e.g. Scheffler, 1977).

Understanding the world has two sides and that both sides must be present simultaneously is therefore of crucial importance. If one is weighted to the detriment of the other then little good will

come of it. A person who does not acknowledge his or her emotions becomes insipid, purely registering external stimuli, bored and incapable of distinguishing between the significant and the insignificant—and thus will lack the impulse to act. To act purely upon emotions, however, is equally limited. Such persons become irrational, victims of influence, ‘sentimental’ and ‘private’, with their actions often undertaken at random.

The holistic perspective on critical thinking is important in relation to developing action competence because it underlines that in order to transform an intention to act into actual action, one needs to be what is called an ‘holistic person’. This holistic approach is emphasized by Scheffler (1977, p. 172) when he states that ‘emotion without cognition is blind—and cognition without emotion is vacuous’.

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### Critical thinking—action competence—democracy

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Critical thinking is a central educational concept because a healthy, just and sustainable future is created not by unthinkingly and uncritically continuing along the same tracks as hitherto. On the contrary, there is much to indicate that the present growth orientated ways of ‘progress’ need be challenged and questioned through health and environmental education.

This critical approach underlines the competence of future citizens to participate actively in the solutions to environment and health problems—in any direction which they find most reasonable according to their interpretations of the problem. Thus, there is a close connection between action competence and critical thinking because the competence to act can substantiate its validity, direction and content. Put another way, critical thinking is a way of qualifying the ability and will to act individually and collectively (see Mogensen and Vognsen, 1993; Mogensen, 1995, 1996, for further discussion).

Discussing the close relationship between action competence, democracy, and environmental and health education, Schnack (1996, p. 11) argues:

The concern about the environment, health and peace must be coupled with a corresponding concern for democracy. Upbringing for democracy—or political liberal education—is in itself a fundamental educational task, and at the same time, I do not believe very much in educational efforts in relation to the environment, health and peace which are isolated from this fundamental perspective.

Hence, the democratic perspective means that the concept of action competence is not a deterministic prescribing concept *per se* in that it points to specific ways of behaviour or to specific understandings of the future society. It is rather prescribing of an obligation to become a critical thinker, i.e. to question critically, but fairly, and act according to the answers founded—and in that way take part in the development of a more democratic, just and sustainable society. Uncritical submission and adjustment to a growth paradigm will under no circumstances be acceptable and will not do. Action competence is a prescribing concept in the sense it indicates the socially critical role of education. This is not to be considered as a flaw. On the contrary, it is an obligation which education continuously must nurture.

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