



## Educating to Think in Environmental Education

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### *Abstract*

*Each epoch has a burning question it needs to address. Certainly, our age has to consider the ecological question. From a pedagogic standpoint, the ecological crisis is not only a question of lack of scientific knowledge, but also of thoughtlessness. Given this assumption, it can be supposed that the priority question in environmental education is that of educating to think, and specifically educating to think by oneself. Consequently, analysis of the following issues is necessary: (a) What does educating to think in an ecological way mean? (b) How do we educate to think, that is, through what kind of learning contexts?*

### *Premise*

Each epoch has its own burning question to consider. Our age has the ecological question. The knot of the ecological crisis lies in the unlimited consumption of nature by western-inspired philosophies and lifestyles. Even though the logic of consumption is devastating and its effects are macroscopic, the consumption of nature continues to increase. This 'non-sense' is exacerbated by the fact that humans appear to be unaware that because all life is one, continuing to consume nature means the human world is also consuming its own life and life-supporting systems.

This apparent lack of wisdom, attested to by persistence in unreasonable behaviour, is caused by many factors, one of which is the *absence of thinking* which characterises our time. To state that in our time thinking is absent appears to be a groundless claim if the progress of science and technology is considered, but in order to understand its real meaning the distinctions between 'knowing' and 'thinking' must be understood. Starting from the Kantian distinction between reason and intellect, Arendt distinguishes two mental activities: thinking and knowing, which in turn have two different facets – meaning, in the first activity, and cognition in the second (Arendt, 1978:14). Knowing is generated by the desire to find answers to scientific problems, while thinking is nourished by the unavoidable need to seek a frame of reference where the meaning of one's existence can be found.

Thinking is reflecting on experience in order to find its meaning. When thoughtful reflection is lacking, a person loses the capacity to think by him/herself; in thoughtlessness a person thinks the way the neuter 'they' think, speaks the way the neuter 'they' speak, and acts the way the neuter 'they' act (Heidegger, 1996:119). In a life without thinking our own distinct

being dissolves into a kind of 'averageness' which levels down all possible ways of authenticating our existence. In this condition of thoughtlessness people tend to use clichés, stock phrases and standardised codes of expression, with the result that when one must address problematical questions people tend to use preconceived answers whose value is taken for granted. But the ecological questions, such as the intensive exploitation of forests, ozone depletion, the devastation of the landscape and the various kinds of pollution, without forgetting the problems raised by biotechnologies and by genetic engineering, cannot find solutions in beliefs taken for granted. Scientific knowledge is insufficient; the ecological questions need thoughtful thinking.

Above all, this is evident when the tremendous power humans have gained through the recent developments in science and technology are considered. This power is the result of an experimental approach through which science began to prescribe conditions to manage nature and to cause natural processes to occur. The enormous increase in human capacities to change nature became problematic when humans developed the veritable art of 'making' nature; that is, of enacting natural processes, which would never exist without human manipulation (Arendt, 1958:231). These processes (typified by processes such as genetic modification and genetic engineering), the outcome of which is unpredictable, have irreversible and irremediable results since they engender chains of action that 'knowing' is unable to foretell. This inability to reliably control any of the processes started further worsens the frailty and uncertainty of the human condition. Since these processes are the outcome of the development of knowledge, it is difficult to know whom we must consult in order to discover the criteria which control the power of science. Therefore, what is needed is to 'think what we are doing' (Arendt, 1958:5).

The absence of thinking is functional to the logic dominating our culture, that is, the economic logic of the market society. The market logic of industrialism is based upon the principle of the continuous growth of production, a process which requires that consumption of natural resources increases. Indeed, for industrialism it is not destruction but conservation of things which is problematical, because the durability of artefacts is the greatest impediment to the development of production. The market logic, in order to guarantee its own survival, sponsors the logic of consumption, that is, a worldview in which happiness is supposed to be found only in consuming. In order to continue its domination, the consuming logic of industrialism needs people who do not think: people who passively accept preconceived worldviews; people who use standardised frames of meaning instead of searching for the best way to make sense of their own existence by themselves.

As a consequence, from a pedagogic standpoint, the ecological crisis is not only a question of lack of scientific knowledge, but above all a question of thoughtlessness. Given this assumption, it can be supposed that the priority goal of environmental education is that of educating to think, and specifically educating to think by oneself, because the questions of thinking can no longer be left to 'specialists' as though thinking, like higher mathematics, is the monopoly of a specialised discipline. Instead, thinking is a responsibility of every citizen. The questions of high value for the human world cannot be left to the decisions of scientists and professional politicians. A democratic culture is an environment which cultivates thoughtfulness.

This paper therefore assumes that the activity of thinking, the attitude of examining whatever question, is a necessary condition for cultivating the capacity for making reasoned judgements on everyday issues. Since the capacity of judgement is one of wisdom's essential components (and our time needs ecological wisdom!), then educating to think is an ineludible task of our formative institutions. Not only environmental education but all education '...is concerned with enabling people to think for themselves' (Jickling, 1992:8).

Consequently, from a pedagogic stand point, analysis of the following issues is necessary:

- What does educating to think in an ecological way mean?
- How do we educate to think, that is, through what kind of learning contexts?

These questions will be analysed within a frame of philosophical reflection which is ecologically meaningful, with particular attention to the theories of Martin Heidegger and Hannah Arendt. Both allow for the rethinking of the Socratic view of education. Indeed, that ecological pedagogy employs the analytical work of philosophy is a necessary prerequisite (Jickling, 1996:5), in the sense that educational theory must be grounded on thoughtful inquiry. In order to identify the pedagogical characteristics of the learning environments in which it is possible to cultivate the ability to think, the socio-constructivist frame will be used as it suggests the conception of educational activity as a 'forum' in which students learn to think together about ecological dilemmas.

### *What does Educating to Think in an Ecological Way Mean?*

#### **Critical thinking**

Human life is always conditioned, because a human is not able to be auto-sufficient but needs to be in relationship with others. Consequently, social relationships are necessary for life but at the same time they place boundaries and limits on the way of being. Thinking too, like all human capacities, is conditioned, since it develops in a predefined symbolic environment, which has its own laws of functioning. When we perform some thinking, we are entangled in webs of previously formulated discourses, since from birth we are part of a pre-structured symbolic world, and through the process of socialisation we assimilate ways of thinking typical of our cultural environment. This symbolic participation is necessary and inescapable, but what is notable is that the mind tends to use the acquired discourses in an unreflective way, that is, it uses ideas without questioning the value of their truth. Also, among educators there is often a reluctance to question prevailing assumptions and values (Bowers, 2001:2).

This economy of thinking is problematical since the ideas which inhabit our own mind have a performative power, that is, they condition our ways of interpreting experience and hence our ways of taking decisions about actions. Thinking through a preconceived symbolic context in an unreflective manner means renouncing our own subjectivity, and when a person lives as others live, thinks as others think, speaks as others speak then he/she lives in an inauthentic way.

We tend to remain in a frame of preconceived presuppositions which are of an ontological, ethical, epistemological and political kind. In order to avoid remaining trapped in assumptions which do not allow deep understanding of the questions, it is necessary to engage oneself in critical thinking through which preconceived presuppositions are questioned. From a Socratic

standpoint, critical thinking is that which does not accept any idea as taken-for-granted, but scrutinises all ideas attentively.

For example, an ontological presupposition which must be critically questioned is the idea that nature has no intrinsic value. This anti-ecological presupposition is at the basis of the dominant instrumental and utilitarian worldview (characterist of western thought), which legitimates the use of nature without raising any kind of ethical dilemmas. This idea has ancient cultural roots as it is connected with the notion of the ancient Greek philosopher Parmenides, according to whom there is a radical split between the material world which appears (the world of nature) and that which is concealed under its appearances (the world of ideas). Only the second has a real value, while whatever appears – that is, whatever is given to our senses and hence all the natural world – is less real, less truthful than the world which does not appear (Arendt, 1978:10). The material world of life was so devalued that the human body was looked upon as a prison of the mind. Consequently, in the Platonic view, in order to authenticate one's life, it is necessary to redirect one's attention from the surrounding environment towards the immaterial world.

The critical investigation of this presupposition requires enlightenment about its ecological implications: conceiving nature as a thing without intrinsic value permits it to be defined as a set of resources at the complete disposition of humans, who can thus use it without any limitation. This devaluation of the natural world in which human life is inescapably entangled, is strictly connected with a devaluation of our earthly life, which is conceived as an imprisonment of our spiritual life. Much recent scientific research can be interpreted as an answer to the desire to escape the imprisonment of the earthly condition, realising the hubristic dream of overcoming any physical and biological limitation. This is evident in the importance given to the attempt to create life in a test tube and in the direction impressed on genetic engineering – this is research which seems to have forgotten the limitations of our earthly nature, thereby raising the most relevant questions of our time.

But critical thinking is useful not only when it deconstructs the anti-ecological framework, but also when it concurrently explores other frameworks so the mind can explore other banisters of ideas from which to interpret experience from an ecological perspective. In this case the mind must explore other ontological presuppositions, which are capable of reversing the positivistic outlook. For example, it is interesting to explore the phenomenological frame according to which there is no distinction between the mental world and the material world. Indeed, in the phenomenological perspective the reality is one and so the appearing material world – that is, the natural which is meant to be seen, heard, touched, tasted and smelled – is real and has value. Besides, since the essence of the human condition is being-in-the-world, in the sense that one actualises only in relationships with the biological and social surroundings and not by escaping this world, our earthly life must deserve the highest care.

Thoughtful analysis of our symbolic environment should also include epistemological and ethical presuppositions. For example, an anti-ecological approach in epistemology is based on the grounds of an atomistic assumption according to which reality is divisible into many distinct beings. This disjunctive approach to knowledge is unable to disclose the complexity of biological life. The ecological paradigm suggests the adoption of a relational epistemology in

which all beings are strictly related to all others. If everything is interconnected, then inquiring into reality means going in search of the structure which connects every thing (Bateson, 1979). Conceiving reality starting from the presupposition of 'oneness' and 'relatedness' (Mathews, 1994:3) induces us to rethink our own place in the scheme of things. Indeed, a change in the epistemological frame also has implications on the ontological and ethical level since the ideas are strictly interconnected and any symbolic displacement engenders a chain reaction involving other changes. If ethics is grounded in ontology, then modifying our way of conceiving nature and inquiring into it implies that the ethical frame needs to be reconsidered. From an ethical standpoint, there is a great problem with the ancient assumption that nature is not a source of value but a mere resource which does not require any kind of ethical obligation. Rethinking this assumption is an unavoidable ethical action.

Much needs clarifying, and this analysis would require further specific work in order to do so. From a pedagogical perspective it is important that this issue is raised, specifically that thinking critically about our presuppositions means interrogating any idea deeply and unmasking its anti-ecological implications. This is a complex, but unavoidable, process, since the critical questioning of one's symbolic environment is the necessary condition for working out a responsible way of thinking. Indeed, a reversal of the usual ideological constructs could have far-reaching consequences in promoting a new ecological culture.

### **Meditative thinking**

In order to live authentically in modern times, deconstructive thinking is not sufficient; constructive thinking is also needed. Here, constructive thinking is that which is engaged in working out frames of ideas which help to orient a person in the intricate worlds of his/her own existence.

As the Spanish philosopher Maria Zambrano (1950) affirms, humans are born as 'not defined beings' since humans do not have a preconceived project for their life; they are 'living problems' since they are born with the inescapable burden of giving shape to their lives but not being furnished with a map for this task, which would help them in drawing horizons of meaning which enlighten human existence. Humans are obliged to lay out this map by themselves – this is the task of meditative thinking.

The objects of meditative thinking are the questions of meaning: 'What is good?', 'How to distinguish right from wrong?' and also, 'How to conduct a good human life?', 'What things are right and just to do?', 'What is the right relationship between humans and the Earth?'. Humans do not have certain and indubitable answers to these questions: the answers, are always uncertain and fragile. Since the questions of thinking do not have definitive answers, they seem entirely idle and have always been conceived as such.

In order to ponder the questions of meaning, the mind needs time – it needs to interrupt any activity and come to rest. The mind needs to stop and think. Using a Platonic metaphor, the mind needs to close the 'eyes of the body' which see the surrounding world – in order to open the 'interior eyes' – which consider questions arising out of the soul. In our frenetic and utilitarian culture this quiet time dedicated to thinking is inconceivable, because engaging oneself in a questioning which has no precise and certain outcome is perceived to be useless.

For this reason our time is full of knowing, attested by many advances in science, but characterised by an absence of meditative thinking.

Thus, if the questions of meaning are unanswerable and hence investigating them is conceived as an 'out of order' work (Heidegger, 2000:14), why spend time on them? However unanswerable the questions of thinking are, a person is called upon to investigate these questions because humans have an inescapable need to think beyond the field of knowledge, where the questions are all answerable in principle and empirically verifiable (Arendt, 1978:58), and to experience the unanswerable so that the significance of human life can be found.

Men and woman, as question-asking beings (Arendt, 1978:62), cannot cease to raise these questions. According to Socrates, a life without thinking is not a real human life (Plato, *Apology of Socrates*, 38a); for this reason, the fundamental goal of education is that of developing in the young the disposition to care for virtue and wisdom in order to bestow sense to one's life. What is notable is that this care presupposes pondering those questions which have the highest existential value.

But there is another reason which makes meditative thinking essential: it has ethical implications, in the sense that the possibility of finding an answer to ethical dilemmas has a clear relationship with commitment to the practice of thinking. From the Arendtian point of view a mind which is educated to ponder general questions such as: 'What is good?' 'What is right?' 'What is beautiful?' is more capable of deliberating when a thing (a discourse, an artefact, an action) is a good, right, beautiful thing. Hence, thinking is a vital necessity in ethical judgement.

The ecological crisis unceasingly raises ethical issues to which our culture has no ready answers. We have no solutions to eco-ethical dilemmas because Western thought is marked by an ancient inattention towards nature, as though relationships between the human world and the natural one were not a problem. Philosophy forgot to think about nature, which became the object of science (Huisman & Ribes, 1990:47). But the questions of eco-justice, of biotechnological research, of identifying a correct use of natural resources, of establishing if and how to continue genetic engineering, cannot be decided by scientific means – they require ethical thinking.

It is necessary for all people to be educated in the cultivation of meditative thinking, which has ethical implications because, in dominant Western culture, there is an 'ethical vacuum' regarding ecological issues (Jonas, 1984:22). Indeed, the reductionist mechanism of modern rationality conceives all physical and biological life as a machine, harbouring no values and expressing no purpose. As a machine, nature can be the object of any manipulative action. The human body too, as part of nature, can be the object of biotechnological designs. Much knowledge is developed on this presupposition which knows no ethical limits – to the point where science manipulates organic life without having the wisdom necessary to control the outcome of the technical actions. As regards the ethical dilemmas raised by the power of technology, traditional ethics leaves us ill-equipped to account for our responsibilities. This is the basis upon which it can be stated that educating to think is a necessity in order for any person to be committed to seeking the criteria necessary for addressing eco-ethical dilemmas. The urgent need for ecological wisdom would seem to require education to foster meditative-ethical thinking.

### Aesthetic thinking

One can easily agree with the opinion that 'nothing perhaps is more surprising in the world of ours than the almost infinite diversity of its appearances, the sheer entertainment value of its views, sounds and smells', but the natural world is not only 'something that is hardly ever mentioned by the thinkers and philosophers' (Arendt, 1978:20). As something to admire, the natural world is also overlooked by our formative institutions. Indeed, in the scientist paradigm in which pedagogical discourse is entangled, nature is confined to only being the object of scientific thought and of calculative reason.

In the prevailing instrumental and utilitarian framework, nature is devalued to a set of resources to be exploited without any limitations: trees are timber, water is energy, animals are tools for experimental processes. Furthermore, in the tourist culture which celebrates contact with nature, it is only an instrumental backdrop for human adventures. Dominant Western culture tends to forget that nature is the source of life and the very quintessence of the human condition (Arendt, 1958:2).

In order to change anti-ecological conceptions of nature into an ecological view which acknowledges its value, it is important to promote aesthetic thinking capable of expressing appreciation of the surrounding world. The outstanding characteristic of ecological aesthetic thinking is the capacity of admiring the elements and phenomena of the surrounding living world. This capacity has its generative source in the cognitive disposition to let the mind be seized by the wonder of the world in front of it. In Greek, the word '*thaumazein*' which means 'to wonder' does not mean a mere astonishment or puzzlement, but 'seeing which admires', and this mental disposition is not an interruption of the rational life of the mind, but is rather the origin of the thinking involved (Plato, *Theaetetus*, 155d). From a pedagogical standpoint, the kind of thinking generated by the experience of wonder is an ecological way of approaching the surrounding world because it safeguards things from an instrumental perspective. Indeed, wonder sees not only timber in the tree but also the sound of leaves in the wind. The disposition to admire is the source of an 'affirmative thinking', which acknowledges that things have an intrinsic value.

The aesthetic attitude of the mind towards the environment, which manifests itself in avoiding any way of manipulating it, is accompanied by a feeling of pleasure: the pleasure of experiencing the phenomena of life in its unforeseeable blossoming of appearances. It is the pleasure of seeing the thing in the manner in which it discloses itself without raising any demand, that is to say, 'admiring with appreciation'.

Promoting direct contact with nature is the way to educate people in aesthetic thinking. In dominant Western culture, developing the capability of ecological aesthetic thinking is unlikely since humans are seldom in meaningful contact with nature in their urbanised and technocratised lives. Consequently, education needs to foster outdoor experiences promoting nature-immersion activities where students are in direct contact with the natural elements. In order to develop a sense of place it is essential 'to get students back into their senses' (Weston, 1996:37) and to guide them to develop thinking in which they devote careful attention to the living world.

Hence, sensorial contact with one's surroundings should be at the core of an ecological experience. Sensorial life is a source of pleasure and this pleasure is a kind of knowledge which

not only increases careful regard for nature, but also nourishes the desire for knowledge. If dominant Western culture had cultivated sensorial life we would be capable of a sensual relationship with nature, and this kind of formative experience would have generated that aesthetic pleasure which is the most effective antibody against the tendency to accept any kind of devastating intervention in the environment (Passmore, 1974).

The phenomenological tradition encourages pedagogy to reduce the intellectualism of schooling by placing great value upon sensorial life since it focuses attention on bodily life. Phenomenology conceives human experience as embodied and, hence, thinking as a material activity which has its roots in the sensorial life of the body. Thus, the environment becomes the classroom, and in this context educators should propose activities which involve sensorial life: touching, smelling, seeing, hearing and tasting.

But in order for environmental experiences to become educative it is not sufficient 'to do' things in contact with nature, we must 'think what we are doing'. No experience yields any meaning without undergoing the operations of reflective thinking. Only when the mind reflects on the lived experience does this experience acquire significance. The outstanding characteristics of this kind of experience is learning an 'ecology of mind', of which a quiet and released attitude are evidence. Students should be educated to assume an attentive posture in which the mind receives the disclosure of things. Schachtel (1959:181) suggests the cultivation of a contemplative disposition in which the mind lets itself be fully absorbed by the surrounding world. This 'allocentric attention' implies a withdrawal from involvement in those ordinary activities whose frenetic deeds entrap the mind, withdrawal from involvement in the usual thoughts which invade the mind. Being contemplative means caring for making the mind open to receive the revealing of the thing, and this openness needs to be free from the bounds of any trammels.

Consequently, the outstanding feature of aesthetic thinking is that 'open attention' which is a necessary part of contemplative wonder. Open attention is the ability to suspend any kind of preconception and expectation in order to make the mind empty and permeable to the original appearance of the thing. It means making one's mind silent. Since 'contemplative hearing' does not manipulate things, but respects them, within this openness there is an ethical approach to the world. For this reason aesthetic thinking is the way for 'poetically dwelling' the earth (Heidegger, 2001:211).

### Political thinking

Cultivating the political dimension of thinking is essential 'since plurality is one of the basic existential conditions of human life on earth' (Arendt, 1978:74) in the sense that humans cannot live outside the company of other humans. Even if a human being is alone, he/she is always with others. From the phenomenological outlook 'being-with' is the existential-ontological characteristic of humans (Heidegger, 1996:113).

But plurality is a problematical condition since humans are all the same, that is, human, but nobody is the same as anyone else. Plurality means differences, that is, living together without that togetherness that cancels distinctiveness. And plurality is not only the *conditio sine qua non* of the human condition, but also the *conditio per quam* (Arendt, 1958:7) in the sense that humans



actualise their essence when realising plurality, that is, when they perform in a world in which anyone lives as a distinct and unique being among equals. Hence, in order to face the problematics of being-with-others head-on so as to co-construct a human world, a kind of acting capable of actualising a relational environment in which everyone can act in concert with the others, cooperating in the growth of a world in which any subject actualises his/her difference is necessary. This is the purpose of politics.

But in a society which is consumer orientated there is no place for political commitment. The commercial and consumer society conceives the primary concern of existence as being the attainment of exchangeable commodities. This consumer worldview impoverishes humanity, since it induces humans to forget that in order to actualise the meaning of existence they must dedicate themselves to other kinds of activities: knowing, thinking, caring for social relationships, making artefacts which contribute to the edification of a human world, and besides these, committing oneself to political life, that is, in 'sharing words and deeds'. One way education can weaken the dehumanising power of consumer logic is by enhancing the political disposition in speaking and acting for the 'common good'.

In order to develop active citizens who are capable of bringing about the transition to ecological culture, education for the environment must enhance the political thought which deals with reality critically and creatively. Through education in political thinking, schools empower students so that they can become critical thinkers and transformative agents (Giroux, 1987).

Acting politically means taking actions which have high political meaning, but it also includes making speeches which are politically significant. As Aristotle states, a human is a 'being having language', and in the language discloses his/her subjectivity. Indeed, it is through speaking that each person can reveal 'who he/she is' through participating in social life (Arendt, 1958:176). Discourse is more important than action, since in order to assume meaning, the action needs a discourse which narrates when it is concluded. Without speech, action would lose its meaning (Arendt, 1958:178-179).

Pointing out problems, describing the processes of change in actions, revealing cases of injustice, marking omitted problems, unmasking hidden contradictions, hypothesising unexpected solutions regarding old questions – all of these are acting with language in a political way. Educating to speak in an ecological way based on an eco-justice approach is a necessary condition for the promotion of a way of living in the world which testifies to a meaningful and responsible presence.

In order to make this study interesting for educators, it is necessary to explain how political thinking comes about. It means the following different things: expressing judgements about pivotal questions; having the courage to say what one really thinks; and planning a better world. The essential feature of political discourse is the ability to express judgements, since it is through judging that one bestows sense on experience. Judging means taking up a definite position in regard to a problem; it means understanding and estimating events, actions and speeches by exploring any possible practical implication. Judging is a positive action when it is motivated by the ethical purpose of discriminating between what is just and what is unjust in order to identify precisely what can be improved and create a common good life.

The opinion that political thinking should be unbiased and impartial is in some way unfounded because the act of judging is always subjective. A citizen is always asked to exercise all kinds of judgements, including occasions when he/she is required to be impartial, since – as Socrates affirms in the Protagoras – to be impartial is not equal to being indifferent, but requires one to commit oneself to an analytical appraisal of the question. And this appraisal requires critical and reflective thinking to be its grounding. Instead, in the economy of everyday life one tends to express judgements on the basis of common sense, that is, by using criteria and standardised rules which are taken for granted. When the judgement is grounded in the absence of thinking, the mind risks an inadequate interpretation of the question because the original profile of that question in object is erased by preconceived and unexamined criteria.

The well-founded judgement has to be grounded on thoughtfulness in the sense that critical and reflective thinking are the mental activities producing the criteria which constitute a necessary condition in order for an in-depth assessment of a question to be made and then a reasoned decision to be taken. If this argument, which establishes a strong relationship between thinking and judging, is accepted, then it follows that education to committing oneself to political judgements must be grounded in educating to think. Thinking questions any unreflective opinion as well as any criteria that may be taken for granted, and so it releases the mind from unexamined assumptions permitting the subject to exercise judgement which is ‘open and wide’.

Specifically, educating to think in a way which supports a wise judgement means developing an attitude of analyzing a question from different points of view and, at the same time, of keeping to a decision, adopting the ethic of prudence in formulating evaluations. To this end, learning to confront one’s way of thinking with others is important, and this confrontation should be made in an open and co-constructive way in order to develop that ‘large and dialectical way of thinking’ – about which Kant speaks in the *Critics of Judgement* § 40 – which lies at the basis of the democratic community. The larger and more dialectical the cognitive displacement is, the more rationally founded the judgement will be.

### *How do we Educate to Think?*

In the Platonic view, thinking is the soundless dialogue of the I with itself, hence it appears to be a mental activity which the subject develops in solitude. But even if it is an intra-subjective activity, it has inter-subjective origins, in the sense that, from a socio-constructivist approach, the capacity of thinking is an internalisation of the shared practice of thinking with others. In the Vygotskian perspective, first there is the participation in social practices and then the development of higher mental skills.

Thus, if humans learn to think by thinking with others, dialogue is consequently the generative matrix of thinking. This dialogical form and the social nature of mental activity was already evident in the Platonic view, since it presupposes a duality of the mind in defining thinking as a silent dialogue between ‘me and myself’ (Plato, *Gorgias*:482); that is to say, the mind has the capacity to split into two – the I and itself. The thinking mind is not one, but it is two in one. This plurality is the essence of the human condition, that is, being is always being-with-others and in mental life plurality actualises as duality.

If we learn to think by thinking with others, then the adequate context for learning is a class which is structured as a 'community of thinking' or 'community of discourse' where students can learn the practice of thinking-together in the form of dialogue.

Learning to dialogue is not a simple task. Dialogue is not conversation and neither is it discussion. Conversation is merely speaking without a precise purpose. It is an interchange of opinions, which often doesn't produce any result in the mind of participants, for when conversation finishes the participants maintain the same ideas as before. Discussion is often conceived as a competition in which one seeks to overcome the others by affirming his/her point of view. Dialogue is a different thing: it is a dialectical interchange in which speakers cooperate in order to reach a shared point of view regarding the question in object.

It is through dialogue that thoughtfulness develops. To this end, the community of learners must be involved in questioning prevailing frameworks and also in seeking other possible worldviews based on concepts of the 'good quality of life' which are alternatives to our consumerist outlook. A new ecological culture needs a concept of life where happiness does not coincide with a high level of consumption, but where it is important to care for mental and spiritual life, to dedicate time to aesthetic education, to assume political responsibility and to care for social relationships on the basis of values such as empathy, solidarity and friendship. In this view it is educative to engage in thinking-together in order to explore views in which the conservation of nature is compatible with a politics of justice, where the production of commodities is ecologically sustainable and where town planning is the result of an extensive participation by citizens.

In a class conceived as an 'ecological community of discourse' students are involved in investigating what it would mean to live wisely on the earth, and at the same time, in order to make this mental activity really educative, they should be encouraged to discuss the underlying assumptions of the worldviews, and furthermore, to explore other cultural perspectives.

But an ecological community of thinking cannot remain enclosed in the classroom; it must go outdoors. The human disposition to appreciate nature needs to experience the surrounding natural world directly. Nature is to be seen, heard, touched, tasted and smelled. For this reason the *ecological community of thinking* should engage in encountering nature first-hand. Traditional school activities are often anti-ecological, since students spend many hours a day sitting in a classroom among books and away from the living world. Ecological education requires a reversal of this paradigm so that it is assumed that all the environment is a classroom where students are involved in first-hand experiences of the living world.

Outdoor experience is not only aimed at developing sensorial life; it is possible to organise a 'dialogical circle of discourse' in the forest where the silence and the tranquillity offered by the natural settings are conducive to stopping and thinking – stopping our frenetic way of life, which does not allow time for a released reflection in which thinking about the relevant questions takes place.

The role of the educator is crucial: above all he/she is asked to involve students in a passion for thinking, and this happens when the educator shows the pleasure of asking questions and raising issues without hurrying to provide answers. Indeed, 'an education of answers does not at all help

the curiosity that is indispensable in the cognitive process' (Freire, 2000:31). The task of educator is that of keeping the dialogue open, avoiding frozen thinking-together in simplistic answers.

### *Reflections*

There are many reasons why it is necessary to educate humans to think. First of all, thinking is the source of a culture. Indeed, knowing and creating works of art also requires thinking. A human lives in a symbolic environment in which he/she breathes thoughts and since it is through thinking that he/she makes sense of experience, thinking deserves our attention. Human life is not automatically human existence. Making life an existence is the responsibility of all human beings. This task requires that we think.

A new ecological culture grows and develops on ecological thinking. When formative institutions foster this kind of thinking, citizens can challenge those ecological problems for which a clear and undoubted solution does not exist. Citizens educated to think can avoid that thoughtlessness which manifests itself in a complacent repetition of standardised opinion, and can engender thoughtful contexts in which the problems can be questioned in depth.

All this requires a paradigmatical reversal in education, in the sense that what is needed is a radical questioning of the technical approach of our formative institutions, which reserve the utmost attention in the learning of know-how. Indeed, our culture tends to believe that school has only the task of instruction, which is often conceptualised as acquisition of the results of science and development of calculative reasoning devices. Instruction is essential, but not sufficient, for education is needed to help young people find direction alongside the process of authenticating existence. And this aim requires the subject to commit him/herself to thinking.

Moreover, education must avoid any kind of indoctrination and must give students an experience of learning in which they can cultivate an open mind, capable of analysing any question in depth without ideological boundaries. For this purpose, developing critical thinking is a pivotal task. By interpreting environmental education as educating to think by oneself the aims of good education are achieved.

### *Notes on the Contributor*

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### *Endnote*

1. That is, the capacity of critically analysing and keeping to decisions about issues such as the politics of the use of natural resources, the direction to impress on scientific and technological development, etc.

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