JOURNAL OF MODERN SCIENCE
TOM 2/51/2023
www.jomswsge.com

DOI: https://doi.org/10.13166/jms/166245

Rosa Indellicato
Aldo Moro University, Bari, Italy
rosa.indellicato@uniba.it
ORCID: 000-0001-9585-0726

HOW CAN SCHOOLS EDUCATE FOR CHANGE? FROM ECOLOGY TO ECOSOPHY

Abstract

The environment is the 'Great Container' in which humans, animals, plants and objects are 'guests'. In this Great Container, Man has discovered himself, the Other, things, succeeding, since the dawn of time, in establishing relationships of balance with 'Otherness'. With the advent of technology, the balance that was at the basis of the man-nature relationship has been shattered by the ever more pervasive desire to possess, owning more and more Nature and destroying more and more of our Large Container.

So what then? How do we cope with the environmental woes we have brought upon ourselves?

In this context, schools have a fundamentally important role to play in guiding young people towards a responsible rationalisation of natural resources and leading them to the formation of an ecological conscience.

Keywords: *globalisation, technology, change, environment, ecological awareness*

Globalisation and the environmental issue

"Sustain-ability", which has become the word of the day, represents a very complex phenomenon that affects the environment, society, economy, culture, politics and concerns the future of mankind.

It is based on the ability to satisfy one's own needs by using natural resources in such a way as to guarantee future generations the same possibilities, without limitations resulting from the inadequate behaviour of those who preceded them (Rapporto Brundtland, 1998; Ammam, 1993; Alessandrini 2022).

To start reflecting on the theme of the environment, it is necessary to begin with an analysis of today's complex and globalised society and the concept of responsibility that should characterise man's conscience. The present age, defined as the age of 'globalisation', is essentially constituted by the standardisation and homogenisation of lifestyles, existence choices, and the daily behaviour of peoples and individuals. Its common denominator is clearly of an economic nature (French, 2000).

It is the economists who remind us that the word 'globalisation' essentially means this: that the whole Earth has become a 'Single Market', hence 'global', that there are no impediments and protectionism of any kind to the movement of goods, without barriers and constraints, and that, above all, such an economic regime is the bearer of well-being and freedom.

We have done this with unparalleled speed, destroying centuries of evolution guided by time and nature (Indellicato, 2021, pp.77-87). We have not been up to the task of understanding the need to curb inordinate growth, and we have not been able to grasp the signs that have been unequivocally put before us for years. We are living in the age of the anthropocene that leaves no escape and clearly shows how we have failed to live in balance with the other living beings on the planet.

The environment is the 'Great Container' in which humans, animals, plants and objects are 'guests'. In this Great Container, Man has discovered himself, the Other, things, succeeding, since the dawn of time, in establishing relationships of balance with 'Otherness'. With the advent of technology, the balance that was at the basis of the man-nature relationship was shattered by the increasingly pervasive desire to possess. It is precisely the meaning

of 'Large Container' that has favoured the holistic viewpoint, which has led to the Earth being denoted as 'systemic reality', 'complex totality', 'ecosphere', 'biotic community' or, more commonly, 'ecosystem', expressions, these and others, united by the idea of the connection of all natural realities in a single 'organism' (Morin, 1988).

One could possess more and more things, more and more riches, possessing more and more Nature, destroying more and more of our Great Container.

In the past, 'nature took care of itself', as far as biological cycles were concerned; therefore, it did not require man to take responsibility for it. Now, on the other hand, nature has become vulnerable to the intrusive and very powerful human species, which disregards its rights (Aime, Favole, Remoti, 2020), however these rights may be: technological development has greatly expanded man's capacity to intervene, from the microscopic to the infinitely large.

The *homo technologicus*, if on the one hand it has given societies new inputs towards techno-scientific progress, on the other hand it has been responsible for a bad use of *techne*, unconditionally abusing territorial, energy and natural resources. A *techne* that the 'homo faber' uses not only, by now, for himself, but in a more 'menacing and sinister' manner on himself (Jonas, 1991, pp. 55-56).

«If the balance of nature is disturbed by homo faber's interventions in the soil, air and water, and these interventions cause natural costs that are not reflected in the balance of economic activities, the category of 'free goods' must also be considered a scarce resource in the same way as economic goods. And since scarcity is a measure of price, air, water and the natural environment must be materialised in a price system. The waste of the environmental good, therefore, is the consequence of an irrational use of resources, since the price system, as it is, is unable to ensure the maximisation of the 'social welfare function'» (Sitari, 1996, p.75; Pinnelli, 2022).

Elsewhere, the philosopher Hans Jonas wrote: "We have become our greatest danger precisely because of our astonishing achievements in mastering things" (Jonas, 1990). He further states: «Compared to our pre-modern ancestors, we know more on the one hand, and much less about our future on the other: we know more, because our analytical-causal knowledge, methodically applied to the empirical datum, is much greater; we know less, because we are dealing with a constitutionally changing condition of

unceasing progress, whereas previous generations were dealing with an overall stable condition» (Jonas, 1990, pp. 148-149).

Man, therefore, is subject in choosing to apply science and technology to the natural world. It is not difficult to understand how the ethical connotation of man's action has also changed. Jonas dwells on this issue by attempting to make a historical, philosophical and religious anamnesis of *techne* and action.

In the face of all this, human ethics has remained inadequate. The ethics inherited from religions and philosophers are, in general, centred on the individual man, perhaps only in a subjective sense and for the single moment: Instead, now the 'nature of human action' has 'changed', our actions have serious consequences on other living species, on the entire planet and for several centuries to come. We need, then, to move to an ethics of proximity that takes future generations into account, or rather if we can call it 'ethics of the future'.

A basic aspect of the "ethics of the future" is concern «for future generations» (Jonas, 1990, p. 115), who, like us, have a right to exist, hence the great novelty: Jonas proposes «an ethics of emergency for the threatened future» (Jonas, 1990, p. 179). It can be summed up with the maxim: «Act in such a way that the consequences of your actions are compatible with the permanence of authentic human life on earth» (Jonas, 1990, p. 36).

Today, the conditions of mankind's very existence, threatened by the powerful technology that man uses without thinking of the ultimate consequences, must above all be saved. In addition, Jonas identifies another responsibility, that of the consensual type, which in society is formalised by a contract between citizens.

The new role of schools in education for sustainability

So what? How can we cope with the environmental woes that we ourselves have brought upon ourselves? How to remedy, if possible, the 'ecological crisis' that affects not only the environment, but also our intelligences and consciences? It is certainly not easy to answer these questions, especially in the current historical period, which is increasingly controlled by mass media power, aimed at cultural massification, in which it seems increasingly difficult to identify

meanings of value in human action and it seems increasingly difficult to land on the shores of legality, respect and solidarity. These questions imply educational choices and solutions that are continually called into question by the 'complexity' of life and the meanings attributed to it (Witkowski, 2022, pp. 7-26).

In this disrupted social and cultural scenario, behavioural change must be sought, but how to educate for change? (Mayer, Varga, Mogensen, 2008, pp. 1-22).

First and foremost, the educational issue on ecological problems must focus on the importance of "sustainable development", which is based on the responsible rationalisation of natural resources and biotechnology and the formation of an ecological awareness that has at its base an adequate education and training in respect for the environment (D'Aprile, Bufalino, 2022, pp. 73-85).

In recent years the school has been the subject in the institutional field of careful pedagogical revisitations aimed at emphasising not only the educational aspects, but also the formative aspects of the child (Sitek, 2007, p. 315).

Sustainability manifests itself in acting on relationships, structures, spaces, where each student has an active role and in this way families, the associative world, the political world, in addition to the school, are also subjects that responsibly contribute to the affirmation of lifelong learning experiences in children (Riva, 2018, pp. 33-50).

This was also reaffirmed in the 2030 Agenda: «Ensure by 2030 that all learners acquire the knowledge and skills necessary to promote sustainable development, including through education aimed at sustainable development and lifestyles, human rights, gender equality, the promotion of a peaceful and non-violent culture, global citizenship and the appreciation of cultural diversity and the contribution of culture to sustainable development»[I].

The school's objective will be to bring young people to «a radical paradigm shift that will shape new lifestyles, new desires and new forms of consciousness and also participate in a reform in the entire system of sciences in their commissioning, destination, communication and learning» (Marchetti, 2012, p. 4).

From this, some lines of educational action can be identified:

- Educating young people to think about the basic questions of what is nature?, what is the place of the human being in the natural order? what is the way of knowing the elements of the world?
- Developing the capacity for rigorous exploration of natural and social phenomena together with scenario-creating imagination;
- Organising contexts that facilitate the learning of ecological knowledge understood not only as a set of knowledge about natural life, but also as a method of investigating reality;
- To enhance sensory and bodily experience in contact with the elements of the natural world, both because sensory life provides the basic information for the cognitive process, and because contact with nature is essential to develop an ecological view of the world;
- Developing the ability to pay attention to phenomena as a precondition for rigorous analytical descriptions;
- Promote awareness of the importance not only of finding answers, but also of generating questions;
- Developing the ability to classify phenomena and developing the cognitive skill of abduction, which is the process by which what they have in common is extracted from phenomena belonging to different fields;
- Orient to consider acquired knowledge as never definitive, but always as provisional points, because the awareness of the limits of knowledge is an essential ingredient for well-considered decisions;
- Facilitating the experience of aesthetic pleasure and spiritual feeling that comes from being in contemplative contact with the things of nature;
- Promoting the disposition to care for the well-being of every living being;
- Guiding young people to appreciate the value of things;
- Promoting the capacity for reflection to learn to understand the implications of our thinking, feeling and acting;
- Educating to imagine ways of inhabiting the Earth inspired by the principle of care for every being and justice for all peoples (Mortari, 2020, pp.176-177).

Everyday life and thus direct contact can be a precious space for continuous learning of good educational practices and training in ecological thinking, i.e. a way of thinking capable of creating connections and thus forming people sensitive to an ethic of solidarity. All this in order to promote an open and critical thinking capable of not closing in on the local and the particular, but attentive to conceiving the ensembles and suitable for fostering the ethical-educational sense of responsibility and active citizenship (Marchetti, 2013; Morin, 2000).

The environmental perspective: from ecology to ecosophy

The environmental perspective for the new school can be seen as the cornerstone of the whole school renewal process.

The pupil appears in a close systemic relationship with the family, the school, the whole of society, in which he will be called upon to play his role.

A role that begins as soon as he takes his first steps towards the construction of an identity that is not already pre-modelled and in which the teacher is called upon to collaborate, no longer the programmer of teaching units but the 'director' of educational action.

The ecological perspective also envisages that school, family and society all contribute to the development of the pupil, who must be seen in continuous interrelation with the world around him.

From the ecological perspective emerges the re-evaluation of the resources of the territory as areas of knowledge and in-depth study, foreseeing a series of territorial thematic units that finally take on the character of interdisciplinarity: the environment with movement, time, space, languages; the environment with geography, social studies, art; the environment with science with biology, chemistry, philosophy; but also the environment as a close relationship between oneself, others and one's surroundings in ethical respect for oneself, others and one's surroundings.

The ecological perspective is also understood as a perspective towards an ecological mentality, which lays the foundations for a correct interaction

between the ethics of individual behaviour and the moral value of one's own life and that of others.

In this educational, value-based, project-based, ecological, interdisciplinary vision of the school, the need to think through a "deep ecology" (Dozza, 2022) and to cast, in the practice of educational action, the didactics of ecology.

What emerges is a feeling of belonging to the world and the environment, which is reflected in a non-utilitarian ecology, but which we could define as "ecosophy" (Panikkar, 1993), i.e. a deep ecology. Within this framework, the sensorial paths experimented propose to develop, through performative bodily and sonorous gestures, a process of awareness and belonging to the environment, landscape and heritage, such as to develop a feeling of deep-rooted interiority to the world and of definitive implication and responsibility in its becoming (Furlani, Schiavone, 2022).

The end of separateness and superiority is part of the process of progressive enlargement of identification, which passes through ever wider spheres, but within humanity, and then extends to the non-human world.

As identification expands, self-realisation grows and the biocentric equality of beings is affirmed, so that «all organisms and entities in the ecosphere are equal in their intrinsic value as parts of an interrelated whole» (Devall, Sessions, 1989, p. 76).

The thesis of the equal right of living beings, which derives from their equal value, is indicative of deep ecology's selective use of organicism, of which it valorises the interrelationship of the parts in the whole (as of organs and apparatuses with respect to the organism).

This is why the Norwegian philosopher Naess tells us that "our ecological self is not limited by the boundaries of our skin". It is a matter of eliminating the thought and feeling of a fundamental split between man and the environment: an accomplished human maturity should lead to a high level of positive identification with living forms and thus entail a deep need to protect them and enjoy their presence. According to Naess, in order to build something truly new and shared, it was important for each person convinced of deep ecological ideas to develop his or her own ecosophy, i.e. "an individual code of values and worldview that guides a person's decisions".

We ask ourselves: but what should man's attitude towards nature be?

First, man must cultivate a new holistic concept in which living beings are no longer regarded as organisms in their own right, but rather as part of nature.

«Organisms and environments are not two things: if a mouse were placed in an absolute vacuum, it would no longer be a mouse. Organisms presuppose an environment» (Naess, 1989, p.66).

In this respect man is no exception: «The human being is not an element in an environment, but is a connecting node within a system of relationships without boundaries determined in time and space» (Naess, 1989, p.97).

It is the educational task of each of us to learn every day to be a wise custodian and inhabitant of the planet and to take care of it with intelligence and love.

"In order to promote a mentality oriented towards care, it would be necessary, first of all, to abandon the idea that it is identified with therapeutic practice alone in order to recover a vision of pedagogical care aimed primarily at the I-world relationship and committed to instructing and educating on the ways of inhabiting the earth. It is therefore a matter of grasping the substantial difference between simple biological and functional living and the more complex existential living, understood as both an end and a means of affirming the human. Dwelling requires, in fact, that the subject be formed at the crossroads of social and cultural instances that activate a representation of self-care as care of the other and of the world, within a horizon of practical and ethical commitment" (Battaglia, 2016).

Caring and educating refer, in practice, to the pedagogical sphere of human formation. As Foucault has shown, caring since the times of Greek philosophy has been understood as taking care of the other in order to take care of oneself, starting with the figure of the teacher, the educator. Today, one cannot speak of education without considering the concept of care, which implies two pedagogical aspects: intentionality and responsibility (Buber's *I-you* or Lèvinas' *face of the other*) (Mariani, 2006).

«In educational action, in fact, we always find a foundation of naturalisation of man, of care for life, of care for existence, of support for the other. A 'terminable and interminable' process that concerns the object of educational action (care of the other), but also the subject himself who acts in the first person and is involved in a wider context (care of the world) through an experience that is always self-formative (care of self)» (Mariani, 2006, p. 53).

Pedagogy as a science for care gives effect to the ontological and anthropological forms of caring, in an authentic sense, against all forms of exploitation and practical reductionism of the wholeness of the human.

Pope Francis, on 12 September 2019, launches an invitation to «dialogue about the way we are building the future of the planet and the need to invest the talents of all: all change needs an educational journey to bring to maturity a new universal solidarity and a more welcoming society» (Pope Francis, 2019).

It is a matter of joining efforts in a broad educational alliance to form mature people, capable of overcoming fragmentations and oppositions and rebuilding the fabric of relationships for a more fraternal humanity.

Within a biocentric perspective, which assigns absolute primacy to life (bios), the intrinsic value we attribute to ourselves is attributed to all living forms (Battaglia, 2002; Bufalino, 2022).

The image of man as the "pinnacle of creation" thus seems to give way to that of a "biotic citizen", a member of a mixed community whose interests intertwine with those of the entire ecosystem. It is basically a matter of extending the domain of ethics to include, among man's duties, respect for the environment and living species (Bartolommei, 1990, pp. 61-70).

Conclusions

In conclusion, we can say that good environmental education can contribute to founding a sensitive, responsible society and a sustainable future. Man is part of nature and enters, with his own animal reality, into the continuous cyclization of matter and energy that characterises the manifestation and succession of life, while maintaining, for his own present reality, all the ethical responsibilities that can, from the outside, influence and modify these natural cycles.

The new cultural role to which man in the twentieth century is called is therefore all about responsibility towards life, towards creation, in all its expressions.

Environmental culture must be the prerequisite on which the paths of environmental education, of the lifestyle revolution, must be delineated.

Environmental education in schools, in the voluntary sector, in society as a whole, must produce codes of conduct and indicate life paths that lead to the

achievement of reconciliation between man and nature, the only way that can truly ensure lasting satisfactory levels and quality of life, reconsidering plans for economic development and resource management.

References

Aime, M., Favole, A., Remoti, F. (2020). *Il mondo che avrete: Virus, antropocene, rivoluzione*. Milano: Utet.

Alessandrini, G. (2022). *Non siamo i padroni della terra: educare alla cultura della sostenibilità*. Milano: FrancoAngeli.

Ammam, F.M. (1993). *L'ambiente, l'uomo e il tempo: alcune considerazioni*. In S. Rodotà (ed.). Questioni di Bioetica. Bari: Laterza, Bari.

Bartolommei, S. (1990). *L' «etica della terra» di Aldo Leopold*. vol. 3.

Battaglia, L. (2002). *Alle origini dell'etica ambientale. Uomo, natura, animali in Voltaire*, Michelet, Thoreau, Gandhi. Bari: Edizioni Dedalo.

Battaglia, L. (ed) (2016). *Uomo, natura, animali. Per una bioetica della complessità*. Lungavilla: Edizioni altravista.

Bufalino, G. (2022). "(Ri)generare la scuola. Per una transizione green e culturale". In *Studi sulla Formazione*: 25, 7-11, 2022-2.

Commissione Mondiale per l'Ambiente e lo Sviluppo. (1988). *Our common future*, Rapporto Brundtland. Milano: Bompiani.

D'Aprile, G., Bufalino, G. (2022). "Cultura della sostenibilità e formazione ecologica: il Green EducationLab". In Rivista *Annali della facoltà di Scienze della formazione*. Vol. 21(2022), pp.73-85.

Devall, B., Sessions, G. (1989). *Ecologia profonda*. Torino: Gruppo Abele.

Dozza, L. (2022). "Ecologia ed educazione". In *Formazione & Insegnamento*, 20 (3) 2022. Lecce: PensaMultimedia.

French, H. (2000). *Ambiente e globalizzazione. Le contraddizioni tra neoliberismo e sostenibilità*. Milano: Edizioni Ambiente.

Furlani, F., Schiavone, G. (2022). "Per una ecosofia del gesto. Un percorso esperienziale-sensoriale di valorizzazione e interpretazione del patrimonio culturale attraverso la partecipazione e il coinvolgimento attivo della cittadinanza". In *Civitas Educationis. Education, Politics and Culture*, vol 11, n. 1 (2022).

https://www.unric.org/it/agenda-2030/30815-obiettivo-4-fornire-uneducazione-di-qualita-equa-ed-inclusiva-e-opportunita-di-apprendimento-per-tutti .

Indellicato, R. (2021). "Pedagogia ed Economia: un'alleanza". In Rivista *Formazione&Insegnamento*, n. 19, 2 (2021). Lecce: PensaMultimedia.

Jonas, H. (1990). *Il principio responsabilità*. Torino: Einaudi.

Jonas, H. (1991). *Dalla fede antica all'uomo tecnologico*. Bologna: Il Mulino.

Marchetti, L. (2012). *Alfabeti ecologici. Educazione e didattica del paesaggio. Una educazione naturale e una scuola naturale*. Bari: Progedit.

Marchetti, M.C. (2013). *Spazi pubblici e nuove forme di cittadinanza.* In *Sociologia,* n. 2, 2013.

Mariani, A. (2006). *Elementi di filosofia dell'educazione*. Carocci: Roma.
Mayer, M., Varga, A., Mogensen F. (2008). *Un approccio istituzionale all'educazione ambientale e allo sviluppo sostenibile: una ricerca internazionale su linee di tendenza e possibili scenari per le ecoscuole*. Milano: FrancoAngeli.
Morin, E. (1988). "La relazione antropo-bio-cosmica". In *Physis: abitare la terra*, M. Ceruti & E. Laszlo (ed.). Feltrinelli: Milano.
Morin, E. (2000). *La testa ben fatta. Riforma dell'insegnamento e riforma del pensiero*. Milano: Cortina.
Mortari, L. (2020). *Educazione ecologica*. Roma-Bari. Laterza.
Naess, A. (1989). *Ecosofia, Ecologia, società e stili di vita.* Como: Red.
Panikkar, R. (1993). *Ecosofia: la nuova saggezza: Per una spiritualità della terra*. Assisi: Cittadella.
Papa, Francesco. (2019). *Messaggio del Santo Padre Francesco per il lancio del patto educativo*. 12 settembre 2019.
Pinnelli, S. (2022). "Promoting Inclusion through Sustainability Education: The 'Ambassadors of Sustainability' Project". In *Formazione&Insegnamento* XX-I-2022. Lecce: PensaMultimedia.
Riva, M. G. (2018). "Sostenibilità e partecipazione: una sfida educativa". In Rivisita semestrale Siped *Pedagogia Oggi*. V. 16 N. 1 (2018). Brescia: PensaMultimedia.
Sitari, R. (1996). "Lo sviluppo sostenibile tra interessi e valori". In *Rivista dell'Istituto di Studi Mezzogiorno Europa*, n. 6.
Sitek, M. (2007). *Polityka ochrony środowiska w sektorze usług turystycznych w świetle prawa Unii Europejskiej.* Olsztyn. ISBN 978-83-7299-511-7.
Witkowski, L. (2022). "Verso una strategia pedagogica per il superamento degli antagonismi interculturali per la civiltà del futuro (tropi dell'ispirazione umanistica)". In Rivista di Studi su *Pace e Diritti umani* Eunomia XI, n. 2, pp. 7-26.

Endnotes

[1] https://www.unric.org/it/agenda-2030/30815-obiettivo-4-fornire-uneducazione-di-qualita-equa-ed-inclusiva-e-opportunita-di-apprendimento-per-tutti.