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Educação Ambiental hoje

La educación ambiental hoy

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Abstract: Despite early definitions, perfectly aware of the challenges and values of interdisciplinary and transdisciplinary education, there is sometimes a short-sighted misconception of Environmental Education, often far removed from its theoretical foundations in trivial practices. According to David W. Orr, all education is environmental education because we live in an interconnected and complex world where transformative, anticipatory, and participatory Environmental Education aims to empower people, change paradigms, and build better futures. A radical change in educational systems is needed, and Environmental Education researchers and practitioners can contribute to this. Nevertheless, we may need a "New" environmental education.
Keywords: Environmental Education, World Community of Environmental Education, Learning, Ecological Transition, Polycrisis.

Resumo: Apesar das definições iniciais, perfeitamente conscientes dos desafios e valores da educação interdisciplinar e transdisciplinar, há por vezes um equívoco míope da Educação Ambiental, muitas vezes muito distante dos seus fundamentos teóricos em práticas triviais. Segundo David W. Orr, toda educação é educação ambiental

porque vivemos num mundo interligado e complexo onde a Educação Ambiental transformadora, antecipatória e participativa visa capacitar as pessoas, mudar paradigmas e construir futuros melhores. É necessária uma mudança radical nos sistemas educativos, e os investigadores e profissionais da Educação Ambiental podem contribuir para isso. No entanto, podemos precisar de uma "Nova" educação ambiental.
Palavras-chave: Educação Ambiental, Comunidade Mundial de Educação Ambiental, Aprendizagem, Transição Ecológica, Policrise.

Resumén. A pesar de las definiciones tempranas, perfectamente conscientes de los desafíos y valores de la educación interdisciplinar y transdisciplinar, a veces existe una concepción miope y errónea de la Educación Ambiental, a menudo alejada de sus fundamentos teóricos en prácticas triviales. Según David W. Orr, toda educación es educación ambiental porque vivimos en un mundo interconectado y complejo donde la Educación Ambiental transformadora, anticipatoria y participativa tiene como objetivo empoderar a las personas, cambiar paradigmas y construir futuros mejores. Es necesario un cambio radical en los sistemas educativos, y los investigadores y profesionales de la Educación Ambiental pueden contribuir a ello. Sin embargo, es posible que necesitemos una "nueva" educación ambiental.
Palabras clave: Educación Ambiental. Comunidad Mundial de Educación Ambiental. Aprendizaje. Transición Ecológica. Policrisis.

A vision since the beginning

The concept of Environmental Education (EE) was probably used for the first time in 1948 by the IUCN. Still, the first definitions appeared between the late 1960s and the early 1970s of the last century (Carter & Simmons, 2010).

1969, the journal Environmental Education (then The Journal of Environmental Education, 1971) was born. We can find here a seminal definition of the EE (Stapp et al., 1969):

Environmental education aims to produce a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solutions.

On the inside of the first slim issue (32 pages), there are other exciting articles, e.g. Wilson B. Clark (1969), arguing that the goal of EE is that every citizen "knows it deep in his heart and bones, the simple facts that he is absolutely dependent on his environment, that he is affected by his environment, and that he affects his environment".

We could add to this definition other seminal documents, such as the Stockholm Declaration of the United Nations Conference on the Human Environment Principle 19

(1972), The Tbilisi Declaration (1977), and so on. All official documents stress that EE is both for young and adults and aims to get full citizens in a complex world.

At the First WEEC (World Environmental Education Congress) in Portugal (2003), the need for a new EE paradigm, supposedly more multi and interdisciplinary, capable of dealing with the complexity and uncertainty of a natural but also cultural and human world emerged. It became clear that there exists "a transition from a certain dominant and leading role of

natural and environmental sciences in EE, towards a growing influence and contribution of the human and social sciences, desirable and vital to the field – philosophy, sociology, psychology, human ethology, anthropology, law, economic and political sciences, educational sciences, communication sciences".

It is becoming increasingly clear that there is a "web of life" (Capra, 1996) and that everything is connected. Edgar Morin (1999, 2001, 2003; Morin et al. 1991, 1999) argues that we need to acquire a sense of planetary citizenship and a planetary community of destiny. All things are connected.

Let us remember the Wilson B. Clark statement (i.e., that every citizen "knows it deep in his heart and bones, the simple facts that he is dependent on his environment, that he is affected by his environment, and that he affects his environment") and the conclusions of the first WEEC. We will explain this advice below.

Two key points

Now, first, I would like to outline two points:

1. There are several "educations": global education, citizenship education, planetary citizenship education, sustainability education, ecological transition education, sustainable development education, human rights education, peace education, etc. So, there is the risk of fragmenting education in many boxes of watertight compartments. This race or competition to multiply education in multifaceted aspects, while often crucial and noble (and sometimes without epistemological foundations…), can weaken all education and addle all people.

EE is, so to speak, an "umbrella" concept" that includes many forms of education.

Year by year, the scientific consciousness of an interconnected world has grown. The history of the environment shows that human evolution and the history of civilisation are histories of transitions: transitions of energy systems, sociotechnical regimes, cultures, and societal organisation, i.e., of nature exploitation, means of extracting resources from the soil, plants, and animals, since the control and the Stone Age to the Industrial Revolution, via the Neolithic and the Agricultural Revolution. The Sixth Mass Extinction starts with homo sapiens sapiens, inequalities, male power, and hierarchies starting with the agricultural stock hoarding in ancient cities and empires.

The division between Earth and Natural sciences, human sciences, humankind and nature has never existed, if not in our minds and educational institutions.

New findings and research have stressed this vital relationship. For instance, the Anthropocene has contributed to breaking down the barriers between disciplines and has placed human history and the "Geologic Time Scale" in relation, not only between geologists. The proposal to consider the era that began with the Industrial Revolution as a specific geological period, the Anthropocene, has mobilised an exciting debate that has involved a wide range of disciplines. The rejection of the proposal by the Subcommission on Quaternary Stratigraphy of the International Union of Geological Sciences testifies to the complexity and difficulty of defining and periodising humanity's current phase.

The Subcommission on Quaternary Stratigraphy of the International Commission on Stratigraphy (ICS), a body of the International Union of Geological Sciences, rejected (2024) the proposal to recognise the Anthropocene as a unit of the geological timescale. However, it also said the term will continue to be used by Earth and environmental scientists, social scientists, politicians and economists, and the public in general. So, it will remain "an invaluable descriptor of human impact on the Earth system."

Summarising the thoughts above, a genuine, interdisciplinary and transdisciplinary EE is:

- A future education because it kindles hopes for different futures: the EE is an anticipatory education that builds competencies about choices, scenarios, and engagement in change. Since the future is a collective invention, the future results from the actions, choices and hopes of the estimated 8.1 billion people who inhabit the Earth or the approximately 8.5 billion who will be on Earth in 2030, the year in which the United Nations Agenda turns.

Environmental education has a great responsibility to contribute to this future invention. A historical crossroads is also a deadlock: Which road or path to take? The crossroads of history is more complex than a fork or a crossroads. It is a tangle of trails that branch off into the forest or tracks out into the desert. Today, the climate, ecological, economic, and geopolitical "poly-crisis" makes the web of possible paths even more complex and uncertain.

- A transformative education because its success indicators are the understatement of world complexity, the acquisition of a solidarity ethos, the will and the capability of action for a better society in harmony and peace with nature and all humans.

- A participatory education because EE builds a shared vision, deals with conflicts aiming to 'win-win' solutions, promotes democracy and bottom-up/grass-roots proposals, develops political activism, and in this manner enhances active citizenship and gets the local communities open to the worldwide community of destiny.

2. EE matches not only with several educations. Davi W. Orr (1994:12) wrote several decades ago: "All education is environmental education."

" Ecological literacy" (Orr, 1992) and a broader and deeper environmental culture are intended to involve all fields of human action.

Over the last centuries, Western governments have built educational systems based on a series of principles, or—as David Orr (1994:8-12) calls them—false "myths."

David Orr chooses six. Among these, I would like to mention:

- Knowledge and technology allow us to manage the Earth's system.

- It is possible to restore what we have destroyed.

To quote David Orr again, "The crisis cannot be solved by the same kind of education that helped create the problems".

The warnings from bodies such as IPCC, IPBES, UNEP, and WMO, the appeals of UN Secretary-General Guterres, and the voice of young people around the world who have followed the example of Greta Thunberg tell us that time for meaningful change is short. We must act quickly and decisively to slow down as much as possible the climate crisis with all its related effects, the loss of biodiversity, the continuous anthropisation of unspoiled nature, the misuse of soil, and, in general, the overcoming of all "safe" planetary boundaries (Rockström et al., 2009a, 2009b).

To do this, we need a 180-degree paradigm shift. This also means a cultural change.

Decarbonisation, necessary to achieve a goal that seems to be staving off more and more (remaining within the 1.5° increase in global temperature compared to the beginning of the industrial era), for example, cannot be achieved only by transitioning to renewable energies. We know that many factors are causing greenhouse gas emissions through energy production and endothermal engines (e.g. agriculture, several industrial processes, buildings, waste, etc.).

Therefore, the decarbonisation of the entire world system of production and consumption affects all fields of human activity. In the

context of global ecological conversion, every sector of work, every social practice, and every aspect of life must be involved.

The climate emergency and other threats to the balance of the Earth and humanity's life would demand a general mobilisation, like the one that committed the Allied Democratic Powers to stopping the German, Italian, and Japanese threats during the Second World War.

The transformation of today's society into a decarbonised society must contend with psychological resistance, technology, infrastructure, public and private organisations, markets, consumer preferences and habits, regulation norms, lifestyles, the inertia of "business as usual", etc.

It means that every citizen is somehow "enlisted", called to do their part both in the workplace and - collectively - in the civil society organisations in which they participate (religious faiths, cultural associations, volunteering, sports activities, philanthropist associations, charities, ...), both at home and in everyday life. We do not change the paradigms, ways of living, producing and consuming, and ways of thinking without the conviction and participation of every member of the human "community of destiny". Decarbonisation can come not only from managers, public and private research centres, or technicians but requires a great deal of social innovation. It requires awareness, mindfulness, consciousness, knowledge, competencies, skills, and cross-skills.

Generally speaking - although the goals are presented using a 'silo approach', maybe because "The problem is that policymakers and planners operate in silos" (Nilsson et al., 2016) "that is, they are addressed as separate elements, mostly in isolation from each other" (ICSU, ISSC, 2015) - , all sustainable development goals are more or less interrelated (Independent Group of Scientists appointed by the Secretary-General, 2019), and the SDGs are well connected among one another, so they "can be seen as a network" (Le Blanc, 2015).

Similarly, education is a transversal way towards sustainability and is linked to all SDGs (ICSU & ISSC, 2015).

A transition to a "New" Environmental Education

Is education responsible for human greed? It is a crucial question. Is education responsible for pillaging and plundering the planet's resources, for an "Overshoot Day" worsening any year, for wars, or for heating the climate?

I do not think so.

Indeed, education – especially starting from Europe in the fifteenth and sixteenth centuries – was an instrument of colonialism and imperialism, supporting humanity's long march towards the Anthropocene and then – during the Anthropocene– was the prop of the great exponential acceleration of each indicator.

The foundations on which education systems have been born, beginning with the Nineteenth century in Europe, have formed minds ready to accept humankind's domination over nature and a series of injustices and inequalities.

The more knowledge grows in recent centuries, the more social and environmental problems grow together: in the last century, for example, the extermination of Jews, minorities and political opponents by the Nazi regime was allowed by a well-oiled organisational apparatus designed and managed by educated and graduated people, citizens of a nation mother of great philosophers, scientists, musicians, writers.

Even the great plundering of biodiversity and the terrible climate catastrophe that looms over a world afraid and upset by the pandemic (and it is also another fruit of our mistakes) are the product of the incredible

power of transformation and destruction put in the hands of humankind by a multitude of educated people: great scientists, excellent technicians, cultured and prepared managers, politicians who grew up in the best schools and universities.

·Indeed, the educational systems have fragmented knowledge into infinite disciplines.

·While we would need a holistic approach and transformative learning.

·They have closed young people within the four walls of their classrooms, drawing a world different from the real world: the carbon economy was built in the Anthropocene on these foundations.

Educational systems formed the masses for a society of mass production and consumption. We have had an explosion of data and media.

Still, these masses are ready to crowd shopping malls as battlefields or divide themselves and fight each other based on religious or ethnic odium.

The research has privileged the fields capable of giving domination and profit (trying to adapt a finite planet to the infinite craving of the few able to take advantage of it).

Vice versa, we have neglected the fields of research that could improve our deep knowledge of life on the planet and how to live sustainably on a finite planet, as we neglected the need for an earth's ethics.

We have many ambitious human beings, unscrupulous social climbers, individualist people, and social media users, and we need the contrary: peacemakers, healers, rebuilders, dreamers, storytellers, and friends (Orr, 1994, p. 12).

While we need to build a planetary community of destiny, this is the main challenge for education.

We must work to transition to a new education. We must be aware that we –as humankind- are (or should be) “in transition”.

We are (or must be) transitioning from a permanent civil war (a war among human beings and between human beings -or a part of human beings- and the life cycles of a finite planet -where everything is interconnected) towards an ecological civilisation.

It is (it must be) a transition of civilisation. Previous transitions happened in the past:

- from the Palaeolithic to the Neolithic, with its revolution in agriculture and livestock,

- from rural civilisations to industrial civilisations, with the Industrial Revolution, imperialism, and colonialism, from the Holocene to the Anthropocene.

The transition from a paradigm of human ‘exceptionalism’ or ‘exemptionalism’ to an ecological paradigm is mandatory on pain of massive catastrophes that we can no longer define as “unimaginable” but which are perfectly imaginable, as described in the IPCC scenarios (the last warnings are terrible) and in reports of many research centres.

The apocalyptic future is no longer born from the imagination of science fiction authors but is written in the predictive algorithms of mathematical models.

Finally, if we need to transition to a new education, this new education is inevitably “environmental.”

It is “environmental” because it centres on the relationship and mutual influence between a prolific, invasive, and intrusive species—the human

species—and a Nature to which humankind belongs and depends, with its complex interweaving of biotic and abiotic factors.

Some fields of research and action

A transition of education to an "ecological" paradigm (i.e., an ecology of schools and campuses, relationships, disciplines and between disciplines, and dialogue between educational systems and society) needs more research and action. This calls on the worldwide community of environmental educators in formal and non-formal sectors to enhance collaboration, partnerships, and relevant projects at the local and international levels.

There are some issues to consider:

1. As I said above, Environmental Education is also an education in eco-citizenship, multiculturalism and peace. It is perhaps also an education that, historically born in the countries of the world Global North, must be "decolonised", giving more space to the knowledge, points of view and languages of the countries of the Global South.

2. There is a crucial challenge. As stressed above, the forest in which we wander as educators in the formal and non-formal sectors is a forest of disciplines in which the educational pathways of school and university are fragmented. However, even outside of school and university, there are hidden separations, watertight compartments, both in our work and the whole context surrounding us, made up of structures and people imbued with separations between disciplines and specialised languages.

Interdisciplinarity and transdisciplinarity are subjects of great importance in general and even more so for us. The environment is at the crossroads of perspectives and is the ideal ground for building interdisciplinarity and transdisciplinarity.

However, be careful: this is not an abstract question with only academic implications.

This challenge has many implications: It calls into question Western science and the relationship between expert knowledge and traditional and empirical knowledge, raises ethical-political questions, and involves a profound reorganisation of knowledge, structures, and laws. It requires considering socio-diversity, biodiversity, and the relationship between humankind and nature.

What better opportunity, in short, to demonstrate the centrality of environmental education?

3. A third and foremost issue is learning. Learning processes are essential, and the two previous issues depend on learning. Through learning, we acquire the elements to move between the paths of history and the cases of life.

We can learn well or poorly. We can become selfish and individualistic or supportive and cooperative. We can absorb conservative or innovative knowledge.

Unlike material growth, which is impossible on a finite planet, learning has no limits.

In 1979, the seventh Report of the Club of Rome (which we all remember since MIT's first report, "The Limits to Growth") published a report entitled, precisely, "No Limits to Learning."

Today, the importance of learning in dealing with "polycrisis" leads us to revisit the crucial relationship of learning to build a desirable future together.

So in 2024, a joint journey between the Club of Rome and the global WEEC network started, with the aim of better understanding the nature of learning today, considering the message that "No Limits to Learning" has

sent in the face of the immensity of the task of improving the quality of human beings.

The message of the Italian Aurelio Peccei, founder of the Club of Rome, is summed up in one sentence: "What we all need at this point in human evolution is to learn what it takes to learn what we should learn—and learn it."

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