# The Interface of Environmental and Humane Education as an Emerging and Relevant Dialogue: A Point of View from Brazil

Maria Castellano, Andréa Quirino de Luca, & Marcos Sorrentino, University of São Paulo, Brazil

#### Abstract

This article addresses the interface between environmental and humane education, as a theoretical and practical emerging field in Brazil. We begin by presenting conceptual similarities that, in our view, underpin and justify the need for a growing connection between the two fields of research and educational practice. We then describe an experience of an educational workshop conducted in Campinas-Sao Paulo that sought to bring the two fields closer, involving the screening and discussion of a Brazilian documentary about the meat industry. We consider the possibility that drawing environmental and humane education together may contribute to changes in favour of all forms of life.

# Résumé

Le présent article aborde l'interface entre l'éducation environnementale et l'éducation humaine, nouveau domaine théorique et pratique au Brésil. Nous commençons par présenter les ressemblances conceptuelles qui, selon nous, causent et justifient le besoin d'un lien plus étroit entre les domaines que sont la recherche et la pratique éducationnelles. Nous décrivons ensuite une expérience dans laquelle un atelier éducationnel mené à Campinas-São Paulo et visant à rapprocher les deux domaines, mettant en jeu la préparation d'un documentaire brésilien sur l'industrie de la viande et une discussion à ce sujet. Nous examinons la possibilité que le rapprochement de l'éducation environnementale et de l'éducation humaine contribue à changer pour le mieux toutes les formes de vie.

*Keywords:* environmental education, humane education, complexity, plurality of life, Brazil

# Introduction

Environmental education, as observed in Brazil, currently oscillates between two approaches: one that is conservationist and one that is more critical in nature. The latter appears as an important strand in this country, since the environmental education that developed in Latin America, and in Brazil in particular, had an important foundation in the counter-culture social movements of the 1960s and 1970s. In their conception, these social movements repudiated simple, preservationist approaches and emphasized the need to address political and social issues as interconnecting with environmental issues (Leis, 1999; REPEC/CEAAL, 1994). Furthermore, according to Gudynas and Evia (1991), the Latin American environmental movements that influenced environmental education proposed

a reconstruction of society based on respect for life, and demanded a new concept of policy that rejected all forms of power manifested in domination.

In societies influenced by dominant Western approaches, science and technology have served to legitimize a utilitarian approach to human and nonhuman animals, turning life into a commodity, often due to concerns related to the accumulation of capital. The critical form of environmental education in Brazil has positioned itself in opposition to this logic of "commodification" of life, pointing out the need to educate for a new ethic that respects life in all of its forms. As a result, environmental education approaches encompassing ideas inherent to humane education are emerging. This article raises some theoretical and practical questions that aim to overcome gaps between the two fields.

It should be highlighted that the term "humane education" is adopted here in reference to a field that, according to Humes (2008) and Kahn and Humes (2009), began to build up in the 1990s with an intent to incorporate, in an integrated manner, environmental issues and human and animal rights, with a particular focus on violence, oppression, and injustice toward nonhuman animals. This approach seems most relevant for a dialogue between environmental and humane education, as discussed in this paper.

# Environmental and Humane Education: A Relevant Dialogue

# Frameworks that Support the "Naturalization" of Oppression

The legacy of Western thought, which has been structured since the advent of modernity between the 16<sup>th</sup> and 18<sup>th</sup> centuries, has precipitated social and environmental injustices over planet Earth. The commodification of life and the excessive exploitation of so-called "natural resources" show how utilitarianism has become the *modus operandi* during this period.

Today, science and technology occupy a privileged place in the Western cultural paradigm. The ideas of progress and development were shaped by the historical period of the Enlightenment and have spread over the planet since the Second World War. The development discourse, connected to the discourse of inevitability, is based on the Scientific Revolution, the advancement of technology, and ideas of individual freedom and free market (Giannetti, 2002).

Recognizing the benefits that science and technology provide to a favoured part of the world population, it is also necessary to give visibility to the processes that affirm science as "the truth" and technology as "salvation," being able to solve any contemporary problem. We must recognize that despite the advances of science and technology, never has there been such a gulf between rich and poor, nor such environmental disasters and technological artifacts of war. We already understand that modernity has not been able to fulfill its promises of happiness, wealth, and peace (Santos, 2007, 2008). This scientific, technological, and socio-economic paradigm legitimizes and naturalizes the processes of domination and oppression of one portion of the human population over another, as well as over nonhuman animals. In reviewing the literature on anti-oppression education, Humes (2008) states that oppression refers to a social dynamic that occurs not only explicitly, from top to bottom, but also in a more hidden and systemic manner, through non-explicit norms that reinforce the power and privilege of some while subjecting others to injustice, violence, and exclusion. These forms of oppression occur covertly in everyday relationships that we take as natural.

The humane education that grew out of the 1990s aims to promote critical thinking and resistance to such forms of injustice and oppression, addressing the relationships between humans, other species, and the Earth by promoting compassion, empathy, kindness, and respect towards others (Humes, 2008; Unti & DeRosa, 2003). With this focus, humane education has the potential to promote a holistic understanding about how injustices and oppression toward human and nonhuman beings are interconnected and mutually reinforced. Despite this potential, however, Humes (2008) writes that humane education has had some practical limitations. By not considering veiled forms of oppression, relations of domination and power have often been understood in a simplified form (e.g., as happening between an oppressing and an oppressed group) and consequently, all of the complexity that humane education intends to encompass may not be addressed. Further, by failing to address the interconnectedness of all of the issues, humane educators may serve to maintain forms of injustice and oppression, even though their intention seems to be the opposite.

In order to build an environmental education that holds sustainability of peoples and respect for all forms of life as its goals, we must start with the exercise of uncovering systemic relations that maintain injustice and oppression in a veiled way. We must also work toward the denaturation of the discourse of modernity, which presents the concepts of "nature," "future," "freedom," "development," and "progress" as static and obvious, even though these concepts are in fact historically constructed and have never been neutral. According to Humes (2008), authors working with the concept of oppression understand that it is not produced only by the actions or intentions of individuals, but mainly by the repetition of harmful discourses that represent ideas and standards of "common sense" that show how people think, feel, act, and interact. To face this issue, we need not only to build new knowledge, but also to disrupt existing knowledges (particularly those that are harmful), allowing what is considered common sense to be re-examined and deconstructed. From there, that what is unknown can emerge.

Likewise, the science that dominates nature and promotes the ideology of one single "truth" needs to be re-built as a new scientific paradigm that supports the possibility of co-existence of a diversity of cultures, ways, and forms of life (Funtowicz & Ravetz, 2000). The environmental education to which we refer thus connects to concepts of humane education, as well as to the theoretical concepts of anti-oppressive education, recognizing the interrelationships among various forms of oppression and also that there is no single truth, no finished answers or expertise, and that there will always be other voices to be heard, other perspectives or other truths to be acknowledged.

The dialogue of knowledge should be instigated in environmental education, not only between different subjects and institutions but also between scientific knowledge and popular and/or traditional knowledges, as well as other ways of thinking beyond the West (Floriani, 2007). The principle of complementarity can encourage the constant exercise of dialogue and reinterpretation, aiming at respecting the "plurality of life." Note that, among the many meanings that the term "plurality of life" can have, in this article it refers to all forms of life on planet Earth.

# Reference Documents that Support Critical Environmental Education in Brazil and Point to the Need to Respect All Forms of Life

In environmental education, the term "plurality of life" has as its main references The Earth Charter (Fórum Global, 1992a) and the Treaty on Environmental Education for Sustainable Societies and Global Responsibility (Fórum Global, 1992b). Both documents were produced at the United Nations conference in Rio, 1992, by the NGO Forum with the participation of many hands: over 1,300 non-governmental organizations (Viezzer, 2004). The Earth Charter opens with the following preamble:

We stand at a critical moment in Earth's history, a time when humanity must choose its future. To move forward we must recognize that, in the midst of a magnificent diversity of cultures and life forms, we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations. (Fórum Global, 1992a, p. 1)

The document also contains principles and action plans, among them the principle to: "Recognize that all beings are interdependent and every form of life has value regardless of its worth to human beings" (Fórum Global, 1992a, p. 2).

The Earth Charter has been translated into 40 different languages and is under constant review. It has been published in many countries, encouraging its use as an educational tool globally. The Treaty on Environmental Education for Sustainable Societies and Global Responsibility also circulates on all continents and in various languages, stimulating debates, seminars, and the practice of environmental education (Viezzer, 2004). In Brazil, this document grounded the creation of the Brazilian National Program of Environmental Education, as well as the National Training Programme for Environmental Educators (Brasil, 2005, 2006).

In contrast to the hegemonic model of development, the term "sustainable development" does not appear in the contents of the Treaty on Environmental Education for Sustainable Societies and Global Responsibility. Its fourth principle states that: "Environmental education is not neutral, but ideological. It is a political act based on values for social transformation" (Fórum Global, 1992b, p. 2, authors' translation). It is also noteworthy that in the English version, due

to requests from American and Canadian participants, the terms "ideological" and "political" do not appear, because it was believed that if the document was signed with these terms included, obtaining funding for non-governmental organizations in these countries would be difficult (Viezzer, 2004).

Discussions of respect and value of the diversity of life are, however, part of the introduction of this document, along with a discussion that allows us to deepen our reflections on the socio-historical processes of degradation of the planet:

We believe that environmental education for equitable sustainability is a continuous learning process, based on respect for all life forms. Such education affirms values and actions that contribute to human and social transformation and ecological preservation... We believe that environmental education should generate, urgently, changes in quality of life and greater awareness of personal conduct, as well as harmony among humans and between humans and other forms of life. (Fórum Global, 1992b, p. 1, authors' translation)

The environmental education to which the present paper is related is inspired by this document. Proceeding from one of the plans of action of this Treaty, which speaks to "working ... from the local realities, establishing the necessary connections with the reality of the planet, [and] creating a consciousness for transformation" (Fórum Global, 1992b, p. 3, authors' translation), we next turn attention to other conceptual bases for an ongoing dialogue between environmental and humane education.

# Demystifying Science and Rebuilding Positions from Education: Other Conceptual Basis for this Dialogue

*The complex thought of Edgar Morin and "otherness" in environmental education.* Critical environmental education aligns with complex thinking, mostly represented by Edgar Morin, a French philosopher and sociologist who is considered one of the leading thinkers on complexity.

"Complex" is a word that comes from the Latin *complexus*, meaning "that which is woven together" (Morin, 2000, p. 38). This concept has been studied in recent years and proves to be a challenge today, as Western thought is still rooted in the fragmentation of knowledge, resulting from the mechanistic view of the traditions of science and technology. Despite fragmentary knowledge practices, however, we must recognize the complexity that must be unveiled: not only the complexity of environmental issues but also of science itself, with its historical and social dimensions. In this case, the dogma of classical thought and the separation between science and philosophy hides political, economic, and ethical issues as if they were apolitical. To move from an ambivalent and naïve position that understands science as "good" or "bad," it is essential to undertake a philosophical reflection that may help us to better understand complexity (Morin, 2005).

Morin (2000) outlines principles that are necessary to educational processes that aim to exercise the concept of complexity. Among them, he points to the need to teach that all knowledge is subject to error and illusion, since all knowledge is interpretation and there are many possible interpretations of the same event. Knowledge, including scientific knowledge, is located in time and place, thus it is placed in a given paradigmatic context and has historicity. Morin (2000) also forwards the need to join several areas of knowledge to push back against fragmentation: since complex problems require complex solutions, connecting knowledge from different disciplines is important. Unfortunately, what still prevails in education are separate disciplines and professional specializations that break the interconnecting contexts and hinder a global overview and understanding of complexity.

Morin (2000, 2005) also points out the need to teach about the human condition, because we are creatures of nature, but our history as symbolic animals in interaction has turned us into strangers in this context. He proposes to teach about the "Earth-Homeland" and its sustainability, about consciousness and global citizenship: not wanting for the other what we do not want for ourselves, assuming the enlightened decision of the human condition in the complexity of our being. Insofar as we reconnect with other beings who inhabit this Earth-Homeland, we must rediscover the ability to feel empathy (in the sense of the word described by Singer, 2002), not only among humans, but also with nonhuman species.

We are proposing that the concepts of complexity and "otherness" are central not only to clarify the need for re-interpreting the world and re-constructing positions starting from education, but also to point out that our positions towards nonhuman others should be based on relations of non-domination and non-oppression.

**Paulo Freire**'s pedagogies. A strong reference point in Brazil for the construction of political and ideological positions by means of education comes from the Brazilian educator Paulo Freire, whose teachings have greatly contributed to environmental education. Freire contributes ideas of political awareness and social transformation through popular education. His most publicized book, *The Pedagogy of the Oppressed* (1969), has been translated in over 20 languages.

For Freire, the matter of dialogue reflects on ethical thought and political action. Education is never neutral, Freire reminds us, and this references a commitment to overcome naïve consciousness. This is always a mutual and collective motion, based on the need to act on reality to transform it. When Freire (2000) explains that "teaching requires recognizing that education is ideological" (p. 141), he gives appropriate visibility to the strength of ideology. Too often, we end up accepting the neoliberal fatalistic discourse that hides the cause of historically constructed social and environmental injustices, or we accept the view that education is a form of technical-scientific training. In line with the ideas of anti-oppressive education, we believe the main action that environmental education practitioners should undertake involves the denaturalization of the fatalistic ideology that tries to convince us that "reality is so" and that there is a

"natural order of things" that is unchangeable. Identification with this ideology ends up supporting and justifying, for example, the use of animals in laboratory tests and their industrialization as "products" to be consumed as food, clothing, entertainment, or other forms of degradation in the name of progress and economic, technological, and scientific "development."

It is important to note that, although we agree with the criticisms regarding Freire's failure to claim freedom for all species (see Corman in this issue; also Kahn, 2002), we recognize that through his pedagogy we can teach humans about dialogue, participation, and praxis, and thus it is possible to transform the *modus operandi* of this cruel society towards life and the planet. It is in this sense that environmental education benefits from the legacy of this important pedagogue who longed for revolution.

The "Buen Vivir" and "Vivir Bien" of the Andean peoples: "The fullness of *life.*" "Vivir bien" is a concept that the original Andean people have brought back to modernity: the idea of appreciation of collectives, not only of humans but of all living beings, including their physical and spiritual elements. This concept necessitates overcoming individualism and establishing a wider community through the recognition of a process of completion and interconnection in living and co-existing (Mamani, 2010). This old community paradigm, which is reflected in the daily practice of being in harmony and balance with all that exists, is present today in the constitutions of countries including Ecuador (approved in 2008) and Bolivia (approved in 2009), which include principles that are opposed to the capitalist ideal of development and progress as excessive accumulation.

Not overestimating the immediate implications that these acts may have in a short time for public policies and for the realities of the peoples of Ecuador and Bolivia, paying attention to the issue of inclusion of this concept in the constitutions of both countries points to an important process of political improvement in favour of historical and cultural diversity. This concept, revisited by the Latin American social movement, strengthens the diversity of life, ethics, respect for all beings, complex thinking, and dialogue, and opposes utilitarianism consolidated by modernity as it does not consider life as a commodity or "resource." The dichotomy of nature/culture, the fragmentation of knowledge, and the lack of ethics and conscience are at the core of degradation of life in our common environment. Much may be learned from the "Vivir bien" concept; being premodern could help us to overcome issues of modernity.

The ideas presented above—Morin's understandings of complexity, the dialogical education of Freire, and the "Buen vivir" concept of the Andean people are just some references that, along with humane education and anti-oppressive education, can help us to imagine a pedagogy that, through a holistic and complex approach, recognizes the interrelationships between different forms of injustice sustained by modern societies and challenges them, taking into account human and nonhuman beings alike.<sup>1</sup>

# Reflections on the "Coeduca" Workshop: Exploring the Interrelationship between Environmental and Humane Education

A Brazilian public policy, designed under the National Training Program of Environmental Educators and proposed by the Governing Body of the National Environmental Education Policy (which in turn is composed of environmental education bodies in the Ministry of Education and Ministry of Environment in Brazil), resulted in the development of educator collectives. Educator collectives are groups of educators from various institutions who develop environmental education training, on a permanent and continuous basis, for the whole of the territory in which they operate (Ferraro & Sorrentino, 2005).

The environmental educator collective of Campinas, "Coeduca," was formed in 2004. In 2005 it received financial support from the National Fund of Environment of Brazil. As the first socio-educational action in the environmental field, Coeduca proposed to train 180 environmental educators throughout the city of Campinas and surrounding region using a political, critical, and reflective approach. The target audiences for this educational experience were citizens of the Campinas region including community leaders, teachers, health workers, civil servants, small business leaders, and members of social movements and non-governmental organizations. The vision of Coeduca was for each participant to complete 360 hours of socio-educational training activities, choosing the activities in which they wanted to participate among a range of more than 40 options.

One of the options offered was a workshop on consumption and consumerism, which included critical discussion of topics such as: the complexity of the processes involved in supply chains, including those with animals or parts of them as products; the social and environmental problems caused by the industrial age; the forms of consumption imposed by the dominant cultural pattern (i.e., the logic of markets); the "traps" created by marketing strategies in the formation of consumers' views; and ethical forms of consumption and the responsibilities we have as consumers in relation to human and nonhuman beings. In short, the workshop aimed to entice participants to rethink forms of consumption and to consider alternative behaviours to the models established by the Western capitalist paradigm. Responding to the interest of participants, it was offered three times between March 2007 and June 2008 and approximately 40 people participated in it. Two of the authors of this article, along with a third colleague, were responsible for the conceptualization, development, and implementation of the workshop.

One of the activities undertaken during the workshop was the screening of a Brazilian documentary about the meat industry, entitled "A carne é fraca"—a loose translation of this title would be "Meat is Weak" or "Flesh is Weak." In Portuguese the word *carne* means both "meat" and "flesh," so the expression is also a wordplay with double signification, meaning that it is very easy to fall into temptation. The title of the video thus aroused curiosity in viewers. The documentary, which was created for public viewing, provokes people to reflect on the trajectory of a steak from the originating animal to the consumer's table. In doing so, it reveals information not usually disclosed. It shows, for instance, the living conditions of farmed animals, the stress and neglect they suffer throughout life, and the indifference with which they are treated, including in the moments preceding their death at slaughterhouses. The video also shows the impact of meat-eating on people's health and on the planet, including testimonials from people speaking to these topics. This video was produced by the Nina Rosa Institute, an independent, nonprofit Brazilian organization, which since 2000 has promoted knowledge about animal rights, vegetarianism, and humane consumption.

In our workshops, the documentary provoked discussion among viewers about various issues involving nonhuman animals, starting with how we are unconscious about many of our daily actions involving them. For example, the logic of market, as sustained by the media, is so "naturalized" that the animal behind the meat becomes virtually invisible to the average citizen: a piece of meat is just a piece of meat, not an animal who once had life and sensitivity. The provocation from the film also raised discussions about the commodification and trivialization of life, about the mechanisms of exercising power and the ethics of life.

The workshops enabled us to create dialogic environments that increased participants' perceptions of the complex network of relationships in which we live, revealing the non-neutrality of our actions, the decisions we make, our ways of living and being on the planet, and our ways of consuming. There was also advancement of a dialogue on social and environmental sustainability, concepts that include the quality of our relationships with other species and a consideration of ways of living that present an alternative to the hegemonic model. In these ways, the workshop contributed to establishing an interface between environmental and humane education.

It must be noted, however, that despite witnessing a maturation of participants in discussions of ethics and our relationships with nonhuman animals, many participants refused to discuss their eating habits. One possible explanation for this is because aspects of food and food preparation—e.g., the barbecue in Brazil—are often identified as cultural practices, and many people interpret cultural practices as practices beyond question. Therein lies a point of conflict: practices that stand in opposition to the historicity of culture need to be better addressed in this society.

At the end of each workshop, participants were asked to carry out an assessment of it. From the evaluations, participants made it clear that the opportunity to be in a dialogic space and to reflect on such questions was relevant and vital. Phrases about the workshop that were shared included: "Provided reflections on our mode of production and way of life. I woke up to reality (I am more aware)"; and, "Shows that it is possible to think about values" (authors' translation). One individual said that participating in the workshop brought to him "a power of action."<sup>2</sup>

There were many positive evaluations showing that the methodology used, based on videos and group dialogue, has the potential to provoke profound reflections. It also became clear that change is a process that starts in reflection and dialogue.

It is not uncommon in our work to meet moments of grief and indignation among participants, brought on by the unveiling of exploitation of nonhuman animals in the food industry, for cosmetic testing, et cetera. However, in the dialogues that took place during the workshops, participants did not comment on the conflict concerning the resistance Brazilians have to developing a critical consciousness about these forms of exploitation. This intrigued us. We believe that to collectively move toward critical consciousness and a change of habits, the participation of collectives that work continuously in this direction is required so that individuals may learn from alternative concepts and practices to better deal with hegemonic pressures, strongly influenced by the media, that alienate us in our daily lives.

The practice of working in a dialogic environment was very effective toward raising a critical awareness. In responding to evaluation questions that asked them to point out issues to improve the activity, most participants asked for more time for the workshop, which demonstrated the lack of experiences available to them to consider this subject. Although we are bombarded daily with a large amount of information, the specific type of information and knowledge presented in this workshop does not reach us, let alone give us opportunity to talk about these realities in a learning environment.

#### **Concluding Remarks**

As Oakley et al. (2010) properly point out, there is not yet a "singular governing discourse" (p. 110) in approaches to environmental education that aim to contribute to animal advocacy and make a difference to nonhuman animals. The existing views are diverse and urge a growing dialogue about the subject. Given this reality, we have aimed to highlight in this article some interconnecting ideas that can promote a dialogue between environmental and humane education, and that can make a difference in favour of improved relationships between human and nonhuman animals.

At a conceptual level, the goals of humane education and anti-oppressive education converge with Edgar Morin's views on complexity and the pedagogies of Paulo Freire, as they demonstrate the need for teaching practices that help students reconstruct knowledge. Recognizing the non-neutrality of science and education, this reconstruction should allow for the questioning of ideologies behind the processes that oppress and trivialize the lives of human and nonhuman animals. At the same time, recovering the Andean peoples' concept of "Vivir bien" reminds us that there are different ways of understanding the diversity of life, according to different historical and cultural contexts. This reinforces the point that the construction of a new ethic in favour of all life forms does not depend on a global convergence to a single discourse, but on the appreciation of the diversity of discourses that share, at the core, a non-anthropocentric worldview. Finally, in the field of educational practice, from the experiment carried out under Coeduca, we suggest that the conceptual and methodological practices of critical environmental education are useful for discussing ideological issues involving the oppression of nonhuman animals and for building interfaces between environmental and humane education.

From these discussions, not only is there evidently convergence of values and principles between environmental and humane education, but there is also great potential in environmental education as a key vector to question the mechanisms of power that condemn millions of animals to lives of misery and suffering every day. We therefore believe that we should not shirk from trying to bring the two fields of knowledge together, and that we should work to build and spread a "total liberation pedagogy" as discussed by Kahn and Humes (2009). This is a pedagogy that works on behalf of social and environmental sustainability and opposes all forms of oppression, freeing any form of life from the possibility of being disrespected in their intrinsic value and affirming their right to simply live and be happy—even if some beings do not need this definition to just be so.

#### Notes

- <sup>1</sup> We recognize that there are other concepts that could strengthen this discussion but did not include them in this paper due to limitations of length and scope. One of these concepts is deep ecology, as elaborated upon by Arne Naess (1988), which considers the human being within nature, as well as equality among species.
- <sup>2</sup> The concept of *power of action*, as elaborated upon by philosopher Baruch Spinoza (1632-1677), was discussed during the workshop and is related to the ability to act toward a desired transformation.

# Acknowledgements

The authors acknowledge Jan Oakley, for her careful revision and editing of the English version of the text, and for her kindness throughout the communication process with the authors; COEDUCA, for having offered us the opportunity to give a workshop on consumption and consumerism, as reported in this article; and the Nina Rosa Institute, for producing important educational material about animal rights, vegetarianism, and humane consumption, which was very useful to us during the workshop discussed here.

# Notes on Contributors

**Maria Castellano** is a post-doctoral researcher in the Environmental Education and Policy Laboratory of University of São Paulo and has a Masters and PhD at the Post-graduation Program in Environmental Science from the same university. She has worked for the Education Ministry of Brazil and the State Department of Environment of São Paulo. Her studies and professional activities have focused mainly on environmental education. **Contact:** mcastelbr@gmail.com

Andréa Quirino de Luca is a biologist who holds a Masters in Forest Resources from the University of São Paulo. She is currently a PhD student in the Post-graduation Program in Environmental Science and a researcher in the Environmental Education and Policy Laboratory in the same university. Contact: andreaqluca@usp.br

**Marcos Sorrentino** is a Professor in the Department of Forestry Science, University of São Paulo, School of Agriculture Luiz de Queiroz. He is former director of Environmental Education at the Ministry of the Environment in Brazil. Since 1977, he has been an active participant and founder of several citizenship and grassroots organizations, forums, networks, and environmentalist groups. He has written and edited books, articles, and texts on environmental education, both in Brazil and internationally. **Contact:** sorrentino.ea@gmail.com

# References

- Brasil. (2005). *ProNEA Programa Nacional de Educação Ambiental*. Brasília, 3ed: Ministério do Meio Ambiente/DEA, Ministério da Educação/CGEA.
- Brasil. (2006). ProFEA Programa de Formação de Educadores(as) Ambientais. Por um Brasil educado e educando ambientalmente para a sustentabilidade. Brasília: Ministério do Meio Ambiente/DEA, Ministério da Educação/CGEA.
- Corman, L. (2011). Impossible subjects: Animals in Paulo Freire's *Pedagogy of the Oppressed*. *Canadian Journal of Environmental Education, 16,* 29-45.
- Ferraro Júnior, L. A. & Sorrentino, M. (2005). Coletivos Educadores. In: Ferraro Júnior, L.A. (Org.). Encontros e Caminhos: Formação de Educadores Ambientais e Coletivos Educadores. (pp. 57-69). Brasília: MMA.
- Floriani, D. (2007). Diálogo de saberes: uma perspectiva socioambiental. In: Ferraro Júnior, L.A. (Org.). Encontros e Caminhos: Formação de Educadores Ambientais e Coletivos Educadores Vol 2. (pp. 105-116). Brasília: MMA.
- Fórum Global (1992a). *A Carta da Terra*. Rio de Janeiro, 1992. Retrieved from http://www.cartadaterrabrasil. org / prt / index.html
- Fórum Global (1992b). *Tratado de Educação Ambiental para Sociedades Sustentáveis e Responsabilidade Global.* Rio de Janeiro, 1992. Retrieved from http://portal.mec.gov.br/secad/arquivos/pdf/educacaoambiental/tratado.pdf
- Freire, P. (1987). Pedagogia do oprimido. 26ed. Rio de Janeiro: Paz e Terra.

- Freire, P. (2000). *Pedagogia da autonomia: Saberes necessários à prática educativa*. 14ed. São Paulo: Paz e Terra.
- Funtowicz, S. O. & Ravetz, J. R. (2000). *La ciencia posnormal: Ciencia con la gente*. Barcelona: Icaria.
- Giannetti, E. (2002). *Felicidade : Diálogos sobre o bem-estar na civilização*. São Paulo: Companhia das Letras.
- Gudynas, E. & Evia, G. (1991). La praxis por la vida: Introducción a las metodologías de la ecología social. Montevideo, CIPFE/CLAES/NORDAN.
- Humes, B. (2008). Moving toward a liberatory pedagogy for all species: Mapping the need for dialogue between humane and anti-oppressive education. *Green Theory and Practice: A Journal* of Ecopedagogy, 4(1), 65-85.
- Kahn, R. (2002). Paulo Freire and eco-justice: Updating *Pedagogy of the Oppressed* for the age of ecological calamity. *Freire Online Journal*, *1*(1).
- Kahn, R., & Humes, B. (2009). Marching out from Ultima Thule: Critical counterstories of emancipatory educators working at the intersection of human rights, animal rights, and planetary sustainability. *Canadian Journal of Environmental Education*, *14*, 179-195.
- Leis, H. R. (1999). A Modernidade Insustentável As Críticas do Ambientalismo à Sociedade Contemporânea. Petrópolis, RJ: Vozes; Santa Catarina: UFSC.
- Mamani, F. H. (2010). Buen Vivir / Vivir Bien: Filosofia, políticas, estratégias y experiencias regionales. La Paz: Instituto Internacional de Integración.
- Morin, E. (2000). *Os sete saberes necessários à educação do futuro*. Trad. Catarina Eleonora F. da Silva e Jeanne Sawaya. 2ed. São Paulo: Cortez; Brasília: UNESCO.
- Morin, E. (2005). *Ciência com consciência*. Trad. Maria D. Alexandre e Maria Alice Sampaio Dória. 8ed. Rio de Janeiro: Bertrand Brasil.
- Naess, A. (1988). Deep ecology and ultimate premises. The Ecologist, London, 18, 128-131.
- Oakley, J., Watson, G., Russell, C, Cutter-Mackenzie, A., Fawcett, L., Kuhl, G., et al. (2010). Animal encounters in environmental education research: Responding to the "question of the animal." *Canadian Journal of Environmental Education*, *15*, 86-102.
- Pernambuco, M. M. & Silva, A. F. G. (2006). Paulo Freire: a educação e a transformação do mundo. In: CARVALHO, I.C.M. et al. (orgs.). Pensar o Ambiente: bases filosóficas para a Educação Ambiental. (pp. 205-217). Brasília: MEC/SECAD, UNESCO.
- REPEC, CEAAL. (1994). *Educación Popular Ambiental en América Latina*. CESE, Pátzcuaro Michoacán, Mexico.
- Santos, B. S. (2007). A crítica da razão indolente: Contra o desperdício da experiência. 6ed. São Paulo: Cortez.
- Santos, B. S. (2008). *Pela mão de Alice: O social e o político na pós-modernidade*. 12ed. São Paulo: Cortez.
- Singer, P. (2002). Vida ética. 1ed. Ediouro, Rio de Janeiro.
- Unti, B. & DeRosa, B. (2003). Humane education: Past, present and future. In D. J. Salem & A.N. Rowan (Eds.), *The state of the animals II* (pp. 27-50). Washington, DC: Humane Society Press.
- Viezzer, M. L. (2004). Somos todos aprendizes lembranças da construção do tratado de Educação Ambiental. Paraná, Toledo. Retrieved from http://forumearebea.org/somos-todosaprendizes-lembrancas-da-construcao-do-tratado-de-educacao-ambiental/