

Complexity and transdisciplinarity in the scope of ecoformation:

A re-reading from the concept of creativity

***Por Berenice Feitosa da Costa Aires y
João Henrique Suanno***

Abstract

Many educational practices and methodologies end up focusing and limiting the development of content without relating them to the diversity of knowledge and experience that is the student in their individuality and sociability. Knowledge restricted to the classroom closes his eyes for a wide and rich reality, which, in turn, arises when we pay attention to society as a whole. Thus, it takes a reflection that reveals, through a compromised analysis with reality, possibilities to join school and the environment in which it is inserted, in which the student is globally seen and can develop what makes he/she able to transform his/her environment and their relationships: creativity. Therefore, Edgar Morin's concepts such as complexity, transdisciplinarity and eco-formation, are fundamental to deconstruct paradigms plaguing education, showing that, from this, innovations that focus on sustainability, the environment and promote social change are essential for the present.

Keywords: Environmental Education. Creativity. Complexity. Transdisciplinary. Eco-formation.

INTRODUCTION

The educational process in general and environmental education in

particular are increasingly being challenged, together with other ways of organizing knowledge, to present their contribution to the building of a socially and ecologically more just world, That is, a world where ethics in relationships is not just a discourse for understanding among humans, but serves as a guide to more cooperative and supportive attitudes among different life forms on the planet.

In this sense, the formation of the environmental educator should offer subsidies for the teacher to think of their practice as a catalyst for educational processes that build and reconstruct, in a process of action / reflection, knowledge about reality with subjects who, involved in the process, not only respect the plurality and cultural diversity for the prevention and solution of environmental problems and conflicts, but also articulate the different knowledges and actions, providing, from the local problems, the understanding of the environmental problem in all its complexity.

It is necessary, then, to understand the process of training environmental educators from knowledge, doing and reflective practice through several processes: training, school disciplines and individual and collective practice. In order to do so, it is necessary for educators to pay attention to the changes that have taken place in modern times, since the knowledge, the doing and the reflective practices of educators are constantly challenged in this broad and symbolic universe of representations, perceptions, images, signs and Ideologies in which we are inserted.

The formation of the environmental educator by knowledge corresponds to the institutionalized formation, built in the years of schooling and academic formation through the higher education courses, in communion with the knowledge and experience brought by each one, since, as pointed out by Tristão (2004, p. 50), "environmental education is characterized as a true web of knowledge". The programs and projects that put effect the organization of formalized knowledge into effect must take into account, in addition to the bonds of the disciplines, the whole associated with everyday knowledge and experience.

The knowledges of experience are those that the educators build with their daily experiences, in social participation and in their life trajectory. Here is the importance of the articulation between the conceived and the lived and the

importance of the construction of the articulated knowledge between these two processes in the formation of the environmental educator. In this context of construction of knowledge in environmental education woven between the conceived and lived, it is understood that the relations established there are not configured as simulacra.

The process of becoming an environmental educator can depart from many paths, not only through the institutionalization of environmental education, but also through political struggle, through awareness-raising, or, as Carvalho (2002) points out, by the vanguard of the environmental movement that she considers as "the ecological subjects". Environmental education can pass between the various knowledges, be it the traditional, the scientific, the popular and acquire multiple meanings and senses. In this context, the formation of environmental educators must seek the "communicative confrontation" (Santos, 1999), integrating these diverse knowledge.

Guimarães (2004), in tracing a formative path for environmental educators, does so from eleven axes, pointing out that the formation of environmental educators is essentially to form leaderships. These formative axes, according to the author, go in the direction of breaking with the conservationist practices of environmental education that do not significantly transform reality. Pedagogical making is one of the woven fabrics for the praxis in environmental education and this pedagogical doing must contain: senses, values and processes. The plurality of experiences and pedagogical practices creates diverse perspectives on the world, and this diversity of actions is important for the construction of environmental education insofar as they articulate the local and the global.

The valorization of these actions must be added to the popular and scientific knowledge so that one can interpret the world and modify the reality, making it possible to establish identities and to elaborate horizons for new actions in environmental education. To have an environmental education woven by reflective practice means to question the relationships that exist between things, to seek their meaning and to question our pedagogical work, and from that point on we begin to change our conceptions in order to perceive the epistemological differences, the conceptual schemes, thus comprising the processes.

Environmental education through reflexive practice should enable the

student to think, learn to interrogate the world, the being and the reality and thus to build a critical environmental education. If the theory enables us to see beyond what is being evidenced, if it is process, then the theory must have meaning so that the conceptions may change or be increased with new knowledge.

In this way, to learn the complexity of the world and of life is to accept the uncertainties of thinking, the integrity of life systems and the urgency to think about projects and research on social and socio-environmental relations that allow a more sustainable society. The environmental complexity leads us to consider and to provide a meaningful knowledge, which has to do with everyday and concrete actions that have to be dealt with on a daily basis, from personal and collective routine to a knowledge that helps, at the same time, the rational and affective part. Environmental complexity requires considering the complexity of subjects who learn, research and read.

Dialogia, as a principle of complexity, suggests that we seek possibilities not only through cultural differences and social equality, the bases of an emancipatory educational proposal centered on social and environmental sustainability, but also in the articulation of contrary concepts, in error, in uncertainty, that is, in the relationship between rationality / subjectivity and organization / disorganization. This creates a subjectivity that strengthens, even more, the resistance of teachers and students to homogenizing subjectivities.

Thus, working with environmental issues in the perspective of teacher formation, in a time of restlessness and great transformations, can not be exempted from its political and social implications, and as such, in its methodological and didactic practices, it is necessary to emphasize the aspects related to why we should do something and not just accept the recipes and solutions through which we will learn / teach how to do it. In other words, the work with these questions presupposes the adhesion of environmental education as political education (Reigota, 1995 and Loureiro, 2004). Starting from this premise, the school constitutes an important, and perhaps unique, territory for the realization and reflection of environmental education, provided that we give an opportunity to the creativity of students and educators.

Sato (2001) makes a reflexive analysis referring to terms and concepts that involve the theme of continuing teacher education (retraining, training,

capacitation, formation and continued education) and opts for the term continuing education with the idea of contribute to the formation of environmental educators in their pedagogical practices, from the construction of their education. In this way, I also intend to consider the continuous formation from the complexity.

Given the historical moment experienced and in the midst of uncertainties, conflicts, contradictions, longings and utopias, it is opportune to seek the resources of complexity theory. This, in turn, requires the breaking of paradigms and re-dimensionates the scientific research methods, triggering reflections on issues such as: teaching methodologies, reinventing the school and rediscovery of its role in human development and formation of people capable of coping with their destinations.

Complexity in focus is based on the negation of simplification and presupposes the intentionality of dialogue with ambiguities, misunderstandings and diversities through the cognitive operators of complex thinking. This thought is characterized by being broader, systemic and relational. In turn, transdisciplinarity, seeking to reconnect what modern science has fragmented and nourished by complexity, relies on the search for a new look at reality, using the logic of the third included.

Referred in epistemological and methodological assumptions, transdisciplinarity supports the idea of a new conception of the understanding of matter and nature that seeks to relate the actions of the individual to matter, nature, social and personal. In this sense, it will be tried to identify, in the projects of transdisciplinary formative experiences, the association of the formation of the environmental educator with the presented questions.

With this understanding, Torre (2008) defines creativity as a condition and an attitude that every human being needs to acquire in order to solve the various problems that exist in education. Still in the dimension of creativity, the author affirms that it has a "scientific and social connotation. In it the personal meaning and social reach are no less relevant than the scientific "(TORRE, 2005, p.15).

Considering the ecoformation according to Torre (2008, p.21), as a systemic, integrative and sustainable way of understanding the formative action, always in relation to the subject, society and nature. The character of sustainability

is only possible when relations are established between all human elements. From the transdisciplinary approach, we understand it to be a different look at reality and its different levels.

According to the vision described above, it is noted that ecoformation goes beyond the transmission and construction of knowledge, being a process of integrating and sustainable interaction of the human being with himself, with the others and with the natural environment in which he lives. It aims at the interactive, systemic, conscious and committed transformation with the human being, with the society, with the culture and the planet in which it lives.

Given the above, it is understood that the curriculum development of the formation course's curriculum of environmental educators should be a task shared by teachers from different areas of knowledge. In this relation it is understood that,

[...] the continued formation of the Environmental Educator entails a dimension that transcends the programmatic objectives of the courses. Training methodologies. It is the formation of a personal and professional identity. Thus, this training contemplates. The dialogue with the world of the teachers' lives, their experiences, their life projects, their existential conditions, their expectations. This implies necessarily reflecting on ethical issues, teaching an ethics of preservation and renunciation. It is argue and to deal with objective aspects of our living and of the relationship with the future of the planet. If, as a result of the Transformations, there were changes in action and if the traditional ethics did not include and could not include, in the roll of its predictions, the future As preservation of nature. So it is necessary, in light of the new challenges, to build an ethics based on Imperatives that meet the new spaces of action and power. (AIRES, 2012, page 127).

With reference to this theoretical construction, the complexity helps us to realize that change is one of the fundamental presuppositions of every transforming process present in the construction of learning and environmental knowledge. The ontological, epistemological and methodological presuppositions of this perspective do not allow the separate of the being from the reality, the subjectivity from objectivity, the educator from the student, the subject from the culture. Coherent with them, the educational reality is not seen as made of

technical rationality and fragmentation, but of processes that consider the whole and also the parts, intuitive, emotional, imaginative and sensitive knowledge.

Does the teaching model traditionally experienced by schools promote an education for which the individual is unique and an example of a wealth of feelings and abilities? At first, schools face a difficulty in offering a training that encompasses the breadth of the human being when we consider it as reflective and creative, thus we end up closing our eyes to the transforming dimension in the school environment and plunging into merely transmitted and restricted contents, sometimes without any association with the environment in which they live.

Feelings, thoughts and expressions of individuality are inhibited and ignored in school, just as the knowledge is isolated and divided as if there could not have relations between them and this, in the educational environment, presents itself in a devaluation of the human and in a pedagogical plan that focuses in disciplines separated from each other and from the integral dimension of the subject. Therefore, it is necessary to rethink all the training that involves education, from the training of teachers to the one offered to the students, within a broader and more coherent perspective with the society and what it expects of its citizens.

Therefore, the school space and its methodologies must be reviewed and brought to the attention of those reflections that may be the basis of changes and transformations, which may exceed the limits of the school, since they imply directly in different spheres. Thus, to analyze, to understand and to reflect are fundamental actions for a school engaged in an educational and social transformation, but such actions involve the commitment and willingness of all those who directly or indirectly participate in some aspect of education, be it school, family, professional, among others.

If the creativity that could make the school goer an active, reflective, questioning, and problematizing citizen is simply left aside for a controlling education and inhibits an breadth of knowledge. Projects that encourage creativity, perceive the learner in a range of social and practical dimensions and associate the contents between them and between the reality in order to offer an integral formation, would bring ineffable contributions to society in all their faces, including that of sustainability and the environment. In this way, it is in the existence of a

complexity, as Morin (2007) conceives it, and in the possibility of a transdisciplinarity that we should stick in order to search for change.

A diagnosis of educational reality: the complexity that permeates the relationships

A careful look at the curriculum and at the methodologies involves constantly rethinking the didactics and the goals that surround the teaching. It is necessary to perceive the tendencies of pedagogical practices and to reflect upon what is expected of the formation that is being constructed, analyzing its diversity and specificities within a broad vision of reality. It is necessary, then, that the disciplines are not reduced to fragments of knowledge to think them in a complexity of phenomena, something that Morin (2006) proposes as a reform of the thought in which it does not close in contents, but is weaved and broadened in a network of knowledge in communication with each other.

The challenge of complexity permeates not only the school sphere, because everything is related and the part can not be detached from the whole without losing something from its meaning. Obviously, to separate something from the whole allows one to know it in its details, however, it is necessary to restore it to its place so that it is integrally conceived and has its importance and relevance to that which surrounds it. To isolate knowledge has its beneficial side, as science proves in its increasingly meticulous experiments, but which only make sense when we insert them into a context. The same occurs, albeit from a different perspective, with teaching methodology and practice: when studying the parts, the integral is not understood, since this is done only through an effort to interweave knowledge so that they are meaningful within a reality.

Henceforth, if the disciplines are organized into content, it is a great mistake to conceive of them as loose pieces and sometimes without connection with the student's experience. Rethinking, re-signifying and articulating means for the knowledge to be taken in its broadness is the way to accomplish the school's role to form active and conscious individuals, thus bringing movement to what was once static in fragmented conceptions. In Morin's words,

We should therefore be animated by a principle of thought which would enable us to link things which seem to us separate from each other. Our educational system favors separation instead of connecting. The organization of knowledge in the form of disciplines would be useful if they were not closed in on themselves, separated in relation to one another; thus, the knowledge of a global whole, man, is a divided knowledge. (2003, p.14)

To reach the meaning of a thought is to interconnect it with others, it is to recognize that it develops itself in the face of an enormous range of relationships and, if we seek to understand it, it is these relationships that we will observe, for "The principle of separation makes us perhaps more lucid about a small part separated from its context, but it makes us blind or myopic about the relation between the part and its context "(MORIN, 2003, p.14). Thus, if the program content is restricted to itself, the rational aspect of the student is placed above the other qualities that constitute it.

It is necessary to think of educational practice and planning through a re-signification of the institution's action and thinking, being a complexity that we reach when we open the horizons of the educational process, a complexity that awakens and stimulates a new look upon reality and the environment that surrounds us, since it opens the way for an understanding of the questions about the human.

The path to complex thinking is not simple. Involving changes of several orders, this path consecrates in a work that needs to overturn behaviors and conditions in order to then rebuild a new reality. The breakdown of paradigms, that is, of the "principles that organize knowledge in a way that we are unconscious" (MORIN, 2005, online) is one of the mishaps that present itself for complex thinking, for to get to this is to get rid of a simplification that mutilates and prevents it from innovating.

The disruption of actions or, on a larger scale, of paradigms involves, firstly, the identification of the problem in order to, from it, to glimpse possible transformations. It is necessary to have a momentum of change and initiative, as well as to consider the contextual, personal, constitutive and evaluative dimensions. Therefore, those who seek an education based on respect for individuality and the

specificities of each are seen in a requirement of attitude that encompasses engagement, resilience and persistence.

Considering complexity becomes fundamental for a new structuring of teaching, methodologies and curricula, but in order to initiate and develop a process that culminates in changes, it is not enough to direct the look to the complexity in the educational space, but to that in which the subject constructs and evidences itself: it is necessary to think the complexity of the contents for the individual that is, in itself, a complexity, that will take the formation that it had to its relations and actions in the culture, in the family, and in so many other means that involve it.

Transdisciplinarity as an opening to creativity

If we deal with individuals in their complexity, the disciplines that prioritize and limit themselves to content no longer match expectations. Transdisciplinarity emerges from the complexity when the school intends a methodology that instigates and provides the student with the tools to articulate their knowledge with their experience, whether inside or outside the educational environment.

Everywhere, the need for interdisciplinarity is recognized, hoping to recognize the relevance of transdisciplinarity, whether for the study of health, old age, youth, cities ... but transdisciplinarity is only a solution in the case of a reform of the thought. It is necessary to replace a thought that separates by a thought that unites, and this connection demands the substitution of uni linear and unidimensional causality by a circle and and multireferential causality, as well as the exchange of the rigidity of the classial logic by a dialogic capable of conceiving notions both complementary and antagonistic; that the knowledge of the integration of the parts into a whole is completed by the recognition of the integration of the whole within the parts. (MORIN, 2003, p. 34)

Since it was used by Jean Piaget in 1970, during an International Seminar held at the University of Nice in France, the term transdisciplinary gains space in the discussions and reflections on the curriculum and its practice. In 1994, in Convento da Arrábida, the thinkers Lima de Freitas, Edgar Morin and Basarab

Nicolescu drafted the Charter of transdisciplinarity, which is a milestone for the understanding of the human, in a global vision, and for education because it shows a reflection about the knowledge and relationship we have with it.

It is important to emphasize that conceiving transdisciplinarity as a method to be followed is not consistent with its foundation and would even dismantle its bases, because, however, by limiting and stagnating its precepts in a model, the notion of transdisciplinarity would no longer refer to an action which becomes flexible in face of the human to respect it in its complexity and diversity.

When referring to contents, transdisciplinarity, as the term itself suggests, presents itself as something that "is at the same time between the disciplines, through the different disciplines and beyond all discipline" (NICOLESCU, 1997, p.1). Thus, this conception distances itself very far from the commonly held approach, showing that transdisciplinarity "does not seek the mastery of various disciplines, but the opening of all disciplines to what unites them and surpasses them" (Freitas Morín, Nicolcs, 1994, online), where "any and all attempts to reduce the human being to a definition and to dissolve it into formal structures, whatever they may be, are incompatible with the transdisciplinary view" (FREITAS, MORIN, NICOLESCU, 1994, online).

Since transdisciplinarity is an invitation to reflection about the human and how it relates to the world, to rethink education as one of these relationships is at the core of a conception of knowledge for which creativity is essential, because if we look for an educational atmosphere that contextualizes and to integrate its contents, "transdisciplinary education re-evaluates the role of intuition, imagination, sensibility and body in the transmission of knowledge" (FREITAS; MORIN; NICOLESCU, 1994, online), thus promoting a space for the creative.

Transdisciplinarity cannot give up creativity. If complexity is the union between unity and multiplicity, between man and his surroundings, even in abstract terms, creativity emerges from a diverse plurality of individuals as something that deconstructs the content boundaries of disciplines. To instigate creativity is to respect the subject in his capacities and actions that make him unique and also a "weaver" of his experience exposed spontaneously and unrelated to restrictive ambitions.

If complexity is attentive to a diversity in various planes and ultimately in the whole that is reality, we have a productive field where creativity sharpens. However, in this diversity that is common to us, whether as biological or social beings, that arise the most varied situations that can be conceived in a totally negative and closed way in itself way, or as a source for innovations and transformations.

The creativity arising from adversity

The notions of complexity and transdisciplinarity raise a question about creativity, for many times, ignored and repressed. But if theoretical considerations about creativity can at first glance resemble something simple, it is important to emphasize that it is as laborious as its practice. To understanding and reflect upon what guides and makes creativity effective involves moving through different concepts and perspectives that manifest themselves from the diversity and adversities of development and human relations.

Creativity, then, can arise in a circumstance where everything seems unfavorable: to re-signify error and deal with adversities, making it an "opportunity to think of another possibility and motivate itself in the continuity of the quest" (SUANNO, TORRE, H. SUANNO, P.18), and of these an overcoming and reconstruction of oneself and the environment, bring to education an invaluable gain, since methodologies and practices can be revised, restructured and developed in an innovative perspective.

For Suanno, "Adversities, if perceived as opportunities for growth, may be of a new cycle and carry forces of renewal, creation and innovation" (SUANNO, 2013, p.31), further stressing that "in situations of great conflicts, if the subject's posture, or institution, is confrontation and creativity, what is elaborated, is almost always innovative." (Suano, 2013, 31).

As instruments of creation, adversities, that emerge from diversity, gain a positive and fruitful dimension in the school environment. Therefore, teacher training must prepare itself to face multiple situations and make them a leap for transformations. For Torre (2010),

Creative adversity and diversity are pillars that should go hand in hand when we talk about teacher education. Together because they have to work with practice with multiple realities, in culture, in

social and economic, in linguistics, in ways of learning and even in the personalities of students. Therefore, it is meaningless to continue to disseminate models that do not depart from these premises. Diversity should be, for directors and teachers, synonymous with wealth and source of creativity. Adversity is a break from something with which we had a strong bond or a built reality (sickness, death, separation, loss, failures of life ...). It shakes the foundations of the meaning of life. When we know how to adjust it and rebuild a new reality we are being strong, resilient. If this situation leads us further and we can make innovative contributions, we enter into paradoxical creativity or creative adversity. And this is what we intend to promote in the face of unhappy situations. Rebuild the house destroyed by adversity. (TORRE, 2010, p.13)

Creative adversity, in addition to the specifics pointed out above, is an incentive for the building of a resilient posture. If it is in the face of the difficulties that the individual puts his creativity to the test, this situation contributes to that, more and more, to overcome the obstacles becomes light, not because the objection is smaller, but because, being developed, the resilience surpasses and re-signifies the problem, being at the heart of renewal and transformation. In this way, "Resilience is a creative capacity, an attitude, with a surpassing characteristic, of coping with difficulties. The individual with this talent develops a capacity to cope with all situations presented to him." (SUANNO, 2013, 40)

If "the differential between the subjects is in the way they view situations of suffering and how they transform them into learning, in creative thinking" (SUANNO, page 33), the teacher is expected to be proactive, critical and, if possible, resilient to the sufferings that may accompany him in the exercise of his profession. It is these teachers that the International Network of Creative Schools seeks to know about and upon which it seeks to reflect and collect experiences that serve as an example for institutions.

The International Network of Creative Schools: a stimulus to transformation

It is to an incentive and to an investigation of the educational environment that is not confined to the classroom that the International Network of Creative Schools comes to contribute to "the recognition and socialization of collectively constructed institutional projects and processes that are creative, transformers, the fruit of a new consciousness and that is nurtured by a culture of change (SUANNO; TORRE; SUANNO, 2014, p.21). Therefore, according with INCS, it is to a creative school that we should direct ourselves when we prioritize an education that emancipates, that transforms and that perceives the student in its specificities, instigating it to be conscious and reflective in its actions.

Breaking with a logic of naturalized knowledge, the creative schools come to question a whole curricular apparatus restricted to the programmatic contents, turning to the individual and encouraging a teacher formation that goes out of the traditional molds, recreating methodologies and concepts that focus on human values and in the conscious development in relation to the environment and its particularities.

According to Torre (2014), the creative school will have as its "cardinal points" transcending, recreating, valuing and transforming the educational reality, more precisely, to excel in creativity is to transcend educational practices that do not conceive of the individual as an transforming being, is to recreate, from this transcendence, new means and structures that propitiate a new methodology, is to value the potentials of all those involved in the educational process, always observing that the error is considered as an opportunity for change and, finally, to transform, through other perspectives, the relationship with the knowledge of school institutions and life as a whole.

It is very important to emphasize that INCS is not structured in order to provide a school model to be followed, but rather focused on research and contributions to the school environment, therefore, it considers schools as unique within its specificities and analyzes and reflects on the projects which can become inspirations and references to other institutions, always emphasizing the creative, transdisciplinary and imaginative bias.

Creative schools thus act as promoters of transformations by their own example, because in showing new and profitable educational possibilities, they arouse interest and stimulate institutions to take other paths. Therefore, INCS has

a concern to bring its knowledge to all who seek to engage in a critical and liberating education, to that end, develops and develops research, encourages publications that disseminate knowledge, deepens and instigates debates and reflections.

A school based on learning processes from the experience of democratic practices, dialogues and aesthetic enjoyment. It is based on human values, solidarity, social responsibility, environmental responsibility, autonomy, equality, social justice, human rights, freedom of expression, democracy, ethics, harmonious coexistence, which foster the development of an inner conscience "(SUANNO; , 2014, p.27)

From a teaching that considers complexity, transdisciplinarity and creativity, and for which INCS turns itself, it is possible for the student to walk through the various knowledges and relate them to his / her experience as a global human being, but this path is only realized if there are development conditions and a propitious sphere to sustain all the diversity that we are and where we are. It is these conditions that are increasingly being ignored in a disregard for nature and the environment.

A creative school can not refrain from thinking about the environment that surrounds it, because creativity needs it to develop itself , while it will become an important tool to promote transformations that preserve it. An eco-formation is indispensable in the face of the current world configuration and, since the school "plays a fundamental role in the formation of creative, resilient and enterprising citizens, who can identify problems of reality and solve them" (PUKALL, ANDRADE, SILVA, 2015, p. 186) nothing can be more coherent than to bring the environmental question to the classroom.

Creativity and eco-formation: a fundamental link

To think of teaching in its complexity and transdisciplinarity that refer to creation is to conceive it in its relation with the whole. Thus, as something so fundamental to the human being, nature must be an object of reflection on its direct implications on the society.

Considering the worrying situation of the environment, a creative posture would open horizons for the preservation and conservation of what we depend on

to survive. Sustainability would find fertile ground to materialize in an area where its importance would be evidenced in its various faces and relationships, drawing attention to the fact that it is not limited to the ecological aspect, but rather unfolds on science, culture, economics, among others.

Eco-formation, therefore, is directed to an effective and conscious thought and action on the environment, which does not aim at an unreasonable gathering of resources, but at a conscious consumption that promotes general well-being. Since the creative school is based on human values, among which is solidarity and environmental responsibility, the eco-formation process benefits not only the environment, but also the society itself, for it collaborates with the development of a citizen who is critical, responsible and engaged in his actions , Since "Eco-formating is to educate for a sustainable and solidary development an education of solidarity, of commitment to the planet and to all its inhabitants, which includes environmental education, education for human rights and for peace" (SUANNO; SUANNO, 2014, 28)

Eco-formation has an important ally in school, since it is in it that one can know the principles of relationship with the environment based on respect, preservation and conscious use of it, thus promoting "responsibility, autonomy, critical sense, the ability to make decisions, the search for solutions to problems and favors creativity. " (SUANNO, TORRE, SUANNO, 2014, 28). The projects related to eco-formation serve as a reference for a comprehensive approach to the individual and show the freedom of expression, creation and reflection, which is fully compatible with the complexity and transdisciplinarity that permeate the school reality.

The transformation of educational practice in convergence with the needs of planetary sustainability and the stimulation of relations of solidary and creative coexistence are fundamental aspects in projects of educational institutions concerned with qualifying life on the planet. Society has been changing in many ways, including the transformation of industrial society into an information society. This brings a progress that requires knowing how to deal with the unpredictable and being in continuous search for new solutions,

which requires facing problems in an innovative and creative way.
(Torres, Silva, 2015, p.17)

Thus, eco-formation is a mutual contribution between the environment and education: the reciprocity between them culminates in an humanized teaching that supports the development of ecological actions that are so necessary nowadays. In other words, "the school has an important role both in the subject's and in the society's formative action concerning their interaction with nature and the means to realize an healthy and lasting coexistence, that perpetuates personal and social well being with environment. " (SUANNO, TORRE, SUANNO, 2014, 27).

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