



**UNIVERSITÀ DEGLI STUDI DI TRENTO**  
**Facoltà di Sociologia**

Re-imagining and Reconstructing the University and Schools in  
Trentino for 2035 and Beyond. Sustainability Education – the Language  
of the Future!

(A Futures Study in Education)

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Trento, 2011

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## Introduction & Key Conceptions

*Sustainability education is a moral challenge that demands both personal and institutional transformation*

Richard Kahn, 2010b

This research thesis aims at identifying and proposing a long-term sustainable vision and project for the system of education in the Autonomous Province of Trento. It comes in a key regional and global period. From one hand, the University of Trento is being “provincialized” and that could open to it new horizons and new degrees of freedom. From the other hand, this is the period of the United Nations Decade of Education for Sustainable Development (UNDESD) (2005-2014) dedicated to the urgent need of fundamental rethinking, reorganization and re-direction of the existing systems of education towards Sustainable Development and Sustainability. It is a period in which education cannot continue to function in the way it does now, but must be re-launched into the new trajectories of Sustainability.

The thesis represents very synthesized and dense futures study, designed to respond scientifically and in a socially responsible way to the problem: What kind of education is necessary and desired for making possible sustainable life, society and development in Trentino for the years 2015 – 2020 – 2035, and beyond?

By using mainly the method of “backcasting” characteristic for futures studies and studies in sustainability, a “desired future” and a long-term sustainable direction for the system of education in Trentino will be identified and presented. They will concern the sustainable development and the new role which the University, Schools and Curricula in Trentino will need to play if sustainability is to be pursued and realized.

The research is divided into 4 chapters. The First Chapter projects, explores and proposes the creation of a new Faculty of Sustainable Development as a sustainable vision for 2035’s Education in Trentino. The faculty itself is organized around the development of 7 sciences for sustainability which are to create a new sustainability paradigm and a new philosophy of education and life. The basic forces that would trigger and foster such a sustainable and systematic reform of educational system of Trentino are analyzed.

Chapter 2 is dedicated to identifying the present configuration of the pro-sustainability education in Trentino. It maps the existing structures and programs of environmental education developed mostly in the years between 2000 and 2010. The essential difference between Environmental Education and Sustainability Education is emphasized.

The Third Chapter strives to bridge the gap between 2020 and the desired vision of sustainability education 2035. It examines and proposes the development of a new university “Undergraduate and Graduate Program in Ecopedagogy, Sustainability and Future for All” for 2020 as a necessary and organizational precondition for organizing Sustainability Education in Trentino.

Chapter 4 aims to connect sustainability ideas and theory with the concrete situation of the present; it connects the possibilities of the present period with the desired future. The chapter is organized as a curriculum of an interdisciplinary course that would aim to introduce students from different faculties and programs into the history, the politics, the theory and the practice of Sustainable Development . The name of the course is “Introductory Course into Sustainability Politics. The Culture and Economy of Sustainable Future”.

The thesis is designed in a special format so as to provide policy-makers, scientists and educators with an extraordinary opportunity to re-imagine, rethink and plan a long-term sustainable vision and direction for the future of education in Trentino and for the future of Trentino itself. Although it is concentrated on Trentino, this futures study strives to contribute to the global development, perfection and progress of the Politics and Education for Sustainable Development.

Key conceptions:

The concepts of Sustainability, Sustainable Development, Education for Sustainable Development, Sustainability Education and Ecopedagogy are central in this futures study into sustainable visions for education in Trentino. The method of *backsting* is chosen as the most relevant method for conducting it.

“**Sustainability**” literally means that we must learn to think and behave in a way that sustains the *natural world* and our cultural relationships for generations to come” (Friedman, 2008, Burgess & Johannessen, 2010). The concept of “*Sustainability*” transcends the idea of “Sustainable Development” and the westernized notion of “development” in some ways. “The Natural Step” defines sustainability in terms of Four System conditions: It argues that: “In a sustainable society, Nature is not subject to systematically increasing:

1. Concentrations of substances extracted from the Earth's crust;
2. Concentrations of substances produced by society;
3. Degradation by physical means;
4. And, in that society, people are not subject to conditions that systematically undermine their capacity to meet their needs” (The Natural Step, 2010).

**Sustainable development**, on its part, according to the Brundtland Commission is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: 1) the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and 2) the idea of limitations imposed by the state of *technology* and *social organization* on the environment's ability to meet present and future needs” (WCED, 1987).

**Education for Sustainable Development** (ESD), is a conception that can be traced back to the Earth Summit, held in Rio de Janeiro, in 1992 (UNESCO, 2009). The main themes of ESD, as defined by UNESCO, are: Sustainable Urbanization, Sustainable Consumption, Peace and Human Security, Rural Development, Cultural Diversity, Gender Equality, Health Promotion and Environment. Education for Sustainable Development “breaks the traditional educational scheme” because it is: *values-driven*, based on *critical thinking*, *interdisciplinary* and *holistic*,

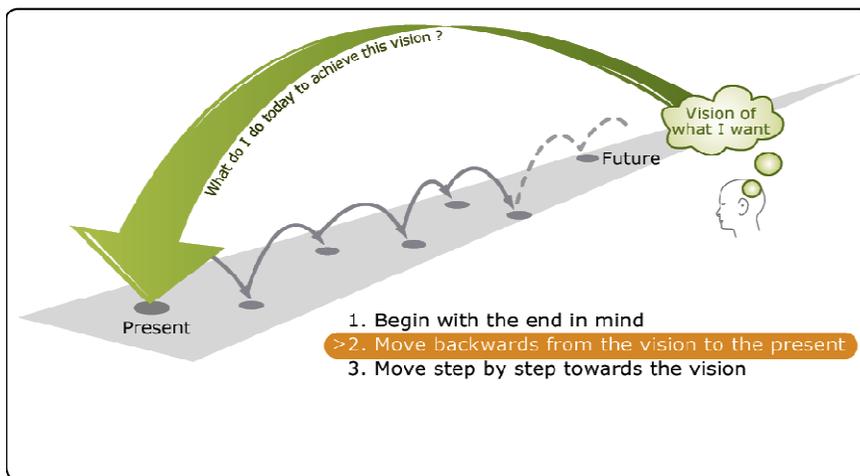
promoting *participatory decision-making, locally relevant* and with high level of *applicability* (UNESCO, 2006:17).

**Sustainability Education (SE).** Although Sustainability Education may be viewed as a synonymous of ESD, it is more often used as a broader concept of ESD that transcends “the ambiguous and vague notion of development”, is paradigmatic, and is aimed at transcending the institutional and organizational limits of ESD (Gadotti, 2008).

**Ecopedagogy,** “initially called Pedagogy of Sustainable Development” (Gadotti, 2008:17), represents “total liberation pedagogy for sustaining life” (Kahn, 2008), a new type of *participatory and creative, love-based* education for creating new sustainable civilization in reality. In a word, Ecopedagogy is “a new model for sustainable civilization” (Antunes & Gadotti, 2005).

**Backcasting or Forecasting for Sustainability?** “The concept of “backcasting” is central to a strategic approach for Sustainable development. It is a way of planning in which a successful outcome is imagined in the future, followed by the question: “what do we need to do today to reach that successful outcome?” This is more effective than relying too much on **Forecasting**, which tends to have the effect of presenting a more limited range of options, *hence stifling creativity, and more important, it projects the problems of today into the future*” (The Natural Step, 2010). While the method of “backcasting” “starts with defining desirable future and then works backwards to identify policies and programs that will connect future to the present (Brandes&Brooks, 2005:12), “forecasting” starts with the present, extrapolate and prolong the current forces and trends that would shape the future, and so tries to predict the most probable future. The problem with the “forecasting” is namely that it tends to preserve the “status quo” and in this way cannot offer *organizational, alternative* and *sustainable* vision for future. Especially interesting and innovative works in the field of backcasting are developed by “The Natural Step” in its projects on the “backcasting from sustainability principles” (The Natural Step, 2006, 2010).

Backcasting illustration. Source: The Natural Step, 2010



## Chapter 1:

# Re-imagining and Reconstructing Education in Trentino for 2035 and Beyond. Towards a Faculty of Sustainable Development

### *Introduction*

This chapter starts with a “desired future” for education in Trentino which is realized in 2035. The system of education in 2035 appears as thoroughly configured and mobilized for making possible sustainable existence, economy, society and future. At least 5 basic exponentially developing phenomena and conditions which render this education’s future possible or rather inevitably necessary and desired are considered. The chapter is concentrated on the new role of the University, Schools and Curricula which is best reflected and symbolized by the new Faculty of Sustainable Development inaugurated at the University of Trento. Seven new Sustainability fields and sciences around which are organized the new School Pedagogy and the new Faculty of Sustainable Development are presented and examined.

Key words: Ecopedagogy, Desired Future, Sustainability, Sustainable Development, Traditional Ecological Knowledge, Futures Studies, Eco-professional Education, Green Economy, Green Jobs, Participatory Democracy, Human Security, Autonomous Province of Trento

## **1. Autonomous Province of Trento, 2035. The University, Schools and the Curriculum – Realizing Sustainability**

If you want to know the future of a society look at the eyes of the children. If you want to maim the future of any society, you simply maim the children.

Ngũgĩ wa Thiong'o, 1993:94

It is 2035, a hot summer, very different from the summers we remember from when we were still students. “This century has ascribed education a central role in every aspect of life (Kellner, 2003a:56). The role of education was totally re-imagined and reformed before 2035. The construction of well-balanced, sustainable and happy future, that is, ecological, humane and democratically formed future, was put in the center of the system of education in Trentino. Globally, universities, schools and curricula did not have more the luxurious opportunity of remaining “value-free”, indifferent and neutral towards the crisis of values, social fragmentation and the growing inequality in society as well as towards environmental problems and disasters. Presently, education is being realized as a world participatory and humane project that aims at making life sustainable and “saving the Earth by uniting, mobilizing locally and globally the creative and humane potential of students, educators and populations (Grigorov, 2009).

In different parts of the world, “de-schooling” and “re-schooling” were realized in diverse and mixed forms as two opposing futures for the system of education. De-schooling, a term popularized by Illich (1971) was seen as one of the probable futures for the school system

still in 2001 (see OECD, 2001 and its 6 scenarios <sup>1</sup> for the future of education). At some places de-schooling was characterized by dissatisfaction, disinterest and negligence towards formal education, and was realized as creation of alternative free networks of education and learning centers that serve the interests of citizens and are opened to everybody (Illich, 1971). At other places de-schooling was connected with “teacher exodus”, lack of funds for mass public education structures, expansion of network society (OECD, 2001:94-98) as well as with mass escape from schools and mass “disestablishment of many institutions which serve the purpose of compulsory learning” (Illich, 1971). Re-schooling, on its part, aims at transformation of the role of schools and universities, realizing paradigmatic change of the very philosophy of education and life.

### **1.1. Re-schooling for Sustainability – An Epochal Shift! A 2035 Sustainable Society needs Action, Love and Miracles!**

“Re-schooling” for Sustainability has as a purpose the remaking and the re-launching of the university and schools as “key social and creative centers that meet critical social responsibilities and represent pillars against social fragmentation and crisis of values (OECD, 2001: 85, 86). Re-schooling for Sustainability was realized in Trentino, where high levels of democracy, autonomy and a civic participatory culture were an important precondition.

This change demanded a great and multidimensional *moral* and *organizational* transformation! When we are talking about Sustainability Education, we are talking about an epochal shift in the philosophy of education; we are talking about a historic attempt to change the trajectory of human civilization by the means of education. And it is all about creating new sustainable, humane and livable futures. The notion of such an Education for Sustainability is promoted by the United Nations Agencies of UNESCO and UNEP, by The Worldwatch Institute, by some new Sustainability Institutes, Colleges, Schools and Universities, as well as by Journals as “Green Theory and Praxis: The Journal of Ecopedagogy” and “The Journal of Sustainability Education”. The “movement for Sustainability education” on its side is associated mainly with the names of Richard Kahn and Jaimie Claud. We could argue that:

Education for Sustainability aims to change radically and structurally the very human society as replace the dominant destructive models of economy based on global consumerism, massproduction systems, technocratism, massmedia spectacle and war industries (Worldwatch, 2010a, UNESCO, 2006, 2009, Kahn, 2010, forthcoming). So, Sustainability education aims at *structural and real life changes* that include the scientific and cultural preparation of new and sustainable local eco-economies, eco-cities, eco-transport systems, sustainable schools and universities that to prepare young generations for new sustainable eco-jobs, for peace, active citizenship and livable future.

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<sup>1</sup> The 6 scenarios produced by the OECD reflect 3 possible futures for schools, synthesized as: a) status quo extrapolated; b) re-schooling; c) and de-schooling (OECD, 2001: 77-97). 35 years after these forecasts, the status quo in school system is changing, and at many places it was radically changed already before 2020. The future that prolongs the status quo was no more possible since it meant prolonging and extremizing problems that were in their critical and disastrous phase already in 2010.

The concept of Sustainability education is intrinsically political, based on active and responsible citizenship (UNESCO, 2009:27, 29), in a word – it is based on *participatory democracy* – “a system in which people have the will, the culture and the spirit to decide and determine their own future and the future of society for better to come” (Grigorov, 2010). As stated in UNESCO’s works on education for sustainable development, such an education has a “spiritual” role at personal and societal level (UNESCO, 2006:16). The “spiritual” role of Sustainability Education is to create sustainable societies as *regionally and locally make a shift away from the global consumer and corporate culture and unsustainable massmedia models*, as organize commercial-free childhood, life and perspectives based on values such as love, play, democracy, peace, free nature, natural lifestyle, and future with hope (Worldwatch, 2010:55-82).

### **Now: New educational Needs! 2020 – I will need Knowledge to ... ?**

The knowledge students and people in general will need around and beyond 2020 is essentially different from the knowledge around which education is now organized. With the development of the current global trends (see Worldwatch Institute, 2010b), around 2020, simply said, students will need the knowledge “that could bridge the gap between the present and a sustainable future” (Grigorov, 2009:103). This would mean:

- Knowledge how to globally stop the forces destroying living systems and society; in a word, we will be in a serious need of knowledge how to preserve and further natural and social life on this planet.
- Knowledge how to act in order to transform and improve our own life and community now and tomorrow.
- Knowledge how to organize management and politics of air, water, food, forests... and future which are “*commons-based*” and would guarantee the availability of vital natural resources to every human and non-human being in need.

In the guidelines document of the Decade of Education for Sustainable Development, the multidimensional core of the sustainability knowledge is underlined in this way: “Education for Sustainable Development (ESD) is a learning process based on the ideals and principles that underlie sustainability and is concerned with *all levels and types* of education. ESD supports 5 fundamental types of learning to provide quality education and foster sustainable human development: Learning to know, Learning to be, Learning to live together, Learning to do and Learning to transform oneself and society (UNESCO, 2009: 26).

### **Distinguishing Education for Sustainability**

The main features that could differentiate, characterize and make sustainable a new system of education can be synthesized and presented in the following way:

- **Sustainability Education** is a place for Theory, Practice and Sustainability Activism, where “the real world is the optimal learning environment” (Capra&Stone, 2010). As conceptualized by UNESCO (2006:17), it is characterized by “applicability” – learning experiences are integrated in day to day personal, professional and social life. Sustainability education is “value-based” instead of neutral; “critical” instead of “silent and memorizing”; “holistic” instead of “one-dimensional”; it is democratic, creative and militant for sustainable future. In this way, sustainable education is organized around a new sustainability concept of

“culture”. It treats culture not only and mainly as knowledge, but it argues that “**culture is action**”, and therefore its logo would be that: “sustainability culture is action”.

- **Sustainability Education** is “empowering”. It has the mission to *empower* students and communities (UNESCO, 2009:26,27,55) to become a force that will determine democratically the development of society and will re-orient elites and states towards realizing sustainability. It is to empower and enable people to take in their hands their life and future, to organize and create both sustainable life and sustainable horizons at all levels – economic, cultural, social and political.

- **Sustainability Education** is marked by love, hope and miracles. We live in a global time full of *rational desperation* and rational acquiescence in which sustainability seems mostly like Fantasy, Big imagination or Utopia, a time in which only miracles could usher our societies into another more just and sustainable trajectory. This is the fact why a sustainable world will not be possible without *Human miracles*, and such miracles are possible only in/by love and revolutionary spirit. As Burgess and Johannessen (2010) write:

It is deep love to Nature, humanity, persons and future that can be *organizational* force of sustainability. Sustainable future can be only “a future born of love than of fear”, “the kind of love that can help us resist the temptation to despair” (see also Moyer, 2010). As the authors argue, “**a curriculum based solely on the study of the definition and/or principals of sustainability**” can difficultly trigger sustainability. **The foundation of hope, love and action is where the real work of education for sustainability lies.**

This tradition of “teaching as an act of love” and education as pro-life politics is underlined in Paolo Freire’s philosophy (Freire, 2000, 1998, 2000a), and well-noted in works of Antonia Darder (1998, 2002).

It must be clear that Sustainability education is not and cannot be offered and realized just as an ordinary theory or science, because it is not neutral, but “values-driven”, and its ends are not *theoretical* but aimed at the sustainable and real transformation of societies. Its main purpose is not to make students and society *know* how sustainability can be realized, because they know it even now, but rather to promote active spirit, citizenship and democracy which struggle for sustainable life and livable future. In this way, the purpose of Sustainability education would be to *empower* students and society to prepare and realize sustainability in reality; it is rooted in sustainable and creative *praxis*. In this way Sustainability education represents Pro-love-life education founded on “love-based curriculum”.

## 1.2. Forces that would trigger Sustainable Transformation of Education

In the context of Trentino, at least 5 non-linearly developing phenomena have conditioned the system of sustainability education that exists now in 2035.

1. *Climate change in Trentino*. Climate change in Trentino, as expected (GPAT, 2008:11-41), has changed significantly temperatures, precipitations, glaciers, terrestrial ecosystems (biodiversity and forest heritage), water resources, hydrogeological stability, human health, energy, agriculture and tourism in Trentino. Many of the predictions made in relation to the climate change in Trentino for the period 2081-2100 are being realized prematurely now in 2035

(see II “Progetto Clima 2008” GPAT, 2008). For understanding better the seriousness of the problem and the peril that climate change poses to society and living systems, some data relevant to the context of Trentino, derived from the “Progetto Clima 2008” are offered here:

“Between 1975 and 2000 a loss of *glaciers*’ surface equivalent to 22% is measured in the Alps. Only in the summer of 2003, Alps’ glaciers lost on average between 5 and 10 % of their volume. With the continuation of the current rates of reduction, less than 50% of the volume of the glaciers presented in the 80s will remain in 2025 (pg. 25, 26).

“*Extreme phenomena* tend to increase, and their frequency could be unpredictable: an increase of the frequency and intensity of the waves of summer warmth, of the events of drought and of the events of intensive irregular precipitations is expected (pg. 33).

*Ecosystems* will be subjected to important consequences which are in act even now: mutation of the structure, of the distribution and productivity of different habitat, with consequences over the fauna, the structure of communities, the biodiversity and the human and animals’ health... (pg. 34).

The increase of temperatures and the progressive melting of glaciers will determinate variations of the permafrost, increasing the areas subjected to *geological instability*, consequently boosting the areas threatened by landslides and mudslides. The geological risk is subject of variations due to expected changes of hydrological cycle caused by glaciers’ melting and precipitation’s regime variations (pg. 35, 36). Agriculture, tourism and energy in Trentino are especially vulnerable to climate change. The variations of precipitations, the melting of glaciers, the change of the rhythm of temperatures and seasons, events of geological instability, all of them will affect and in many cases make impossible the normal reproduction of ecosystems and hardly possible the present agricultural patterns and models of summer and winter tourism (pg. 106). The management and the sufficiency of water resources that currently generate the most of Trentino’s energy will be challenged (pg.79).

2. *The transformation and the re-imagining of local and political community* (Linklater, 1998, Held, 1998). This transformation in Trentino was conditioned locally as well as globally. Between the regional factors that played a key role in this transformation can be mentioned “essential changes in demographic structure, changes in family models, the new role and the new significance of immigration (PAT, 2009). In 2008, 15,7 % of foreign residents were born in Trentino, while the percent of foreign *residents* in Trentino was 8,2 %. In the last 15 years Trentino acquired more and more the image of a multicultural society, with foreign residents coming from more than 20 nationalities (Ambrosini, Boccagni&Piovesan, 2009:41,42). This is a structural and very significant change with consequences felt in all spheres of everyday life and society. It seriously affects and will more and more change the future, identity, and life in the Province of Trento.

3. *The transformation or the decay of the “New Economy”* (Henwood, 2003, Malerba, Pianta, Zanfei, 2007:82, Brynolfsson, 1993), and the beginning of the “Green Economy” requiring new sustainable and green services (UNEP, 2008:77-80). This transformation has included:

- Total reform of the service economy that reached its speculative peak in the period 2001-2009 and that was “responsible for coordinating, facilitating, financing, distributing and selling

many of the predominant unsustainable practices and products, although it was directly responsible for very little pollution (UNEP, 2008: 277, see also Dupressoir, 2009:8).

- Realizing in practice the “Global Green New Deal” (UNEP, 2009) that foresees sustainable transformation of world economy. “*In just two or three decades, the entire global economy will need to be well on the road to a low-carbon and sustainable future*” (UNEP, 2008:278). Today, more than 30 years after the idea of “Global green new deal” was developed, at least the economy of Trentino is de-carbonized, sustainable and green.

- Transforming and greening the world of work and the cities through “green jobs”. In Trentino, a revolution of “green jobs” was realized at least in 10 basic sectors: energy supply alternatives, transport models, services, food and agriculture, forests, buildings (UNEP, 2008), prevention and preservation of territory, tourism in its sustainable variants – ecotourism, agrotourism, responsible tourism, and sustainable education (Battistie & Lozzi, 2002:12-15, 45).

4. *A world and nation states with less and less natural resources and more and more pollution, greediness, and health problems.* In one way or another still in 2010 we were globally confronting the problems of scarcity and lack of basic natural resources. The “resource war” for fundamental resources like water (see Cochabamba water wars) has started in many parts of the world and marked many episodes of the new millennium (Klare, 2001, Shiva, 2002, 2006, Olivera, 2004).

5. *The prospect for Trentino to become an international leader in Sustainability education and “Green jobs”.* This prospect was realized as still before 2020 the Autonomous Province of Trento put the bases of ambitious projects related to sustainability education and green jobs.

6. *We Ourselves.* The last but the most important force is *We Ourselves!* As the Italian singer-songwriter De Gregori sings “La storia siamo noi” (The history We are). The decisive force that will shape future in the end – it is our level of culture, of consciousness, of belief and moral engagement to create “humane, balanced and livable future” (W. Ayers) for ourselves and for generations to come, to preserve the Natural world and ourselves.

### **1.3. Educators, University and Schools in 2035, Trentino.**

#### **The University of Trento**

in 2035 represents not only one of the universities that are “going well” but a new model of sustainable university, of university of the future, that is, an university which organizes sustainability in reality. Founded in 1962 with the purpose of becoming center of the new knowledge for society by opening the first Faculty of Sociology in Italy, the University of Trento has lived a new “renaissance” in the period around 2020 with the development of the new Undergraduate and Master program in “Ecopedagogy, Sustainability and Future for All”. The first Faculty<sup>2</sup> of Sustainable Development was inaugurated at the University of Trento around

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<sup>2</sup> Historically, the problematic of the development of ecological, humane and sustainable futures entered in the world of education in different ways: Firstly, through the creation of new universities and new schools (in this regard see also Boyer, 1985). Good examples here are the so-called “free universities” that in the 60s sprang up in or near almost half of the traditional colleges in the USA and were organized around the principles of individual and social liberation (Werdell, 1972: 276). And

2035. Now the university represents an international center for the study and organization of sustainable development, one of the few universities that offer completely ecologized knowledge organized around the principles of sustainability.

### **The Schools**

in Trentino have become centers of the new values of sustainability and sustainable development and effectively counteract the crisis of values, social fragmentation and inequalities, because in many ways “environmental degradation results from fundamental sociocultural, political, and economic inequalities” and cannot be “artificially separated from their study (Kahn, 2010:19, 2008, Weidner, 1976:23).

All that was achieved by virtue of the crucial update of sciences and curriculum in Trentino. The cooperation between university, schools and the 11 territorial laboratories of environmental education and the 15 experienced centers organized mostly from the “Rete Trentina di educazione ambientale” (Trentino’s network of environmental education) in the first decade of 2000 (APPA, 2009) has played an essential structural role for the success of Trentino as an international center and model of sustainability education.

### **Educators in Trentino: Paolo Freire’s method of “conscientization” and “dialogue” – resolving the teacher-student contradiction!**

Educators in Trentino in 2035 perceive teaching in the paradigm of Freire’s democratic and liberating tradition of dignity and humanism, namely teaching as an act of Love and Dialogue, love and dialogue to people, Earth, and all of Life. Educators now understand that they are the persons who have *principle* responsibility for where society goes, how democracy functions, and what future will be left to generations to come.

In 1970, Paolo Freire – one of the most influential practitioners and theorists of Liberatory Education and Humanism of all times, published the classic work “Pedagogy of The Oppressed”. Writing also Pedagogy of Hope, Pedagogy of Freedom, Pedagogy of the Heart and many other basic texts on education, Freire put the beginnings of a new humane and liberating pedagogy and concept of education in Brazil, the USA, and worldwide.

Freire saw “*Education as a practice of liberty and as a way to intervene in the world*” (1977), *Teaching as “an act of love”* (Darder, 1998), and Teachers as cultural workers and humanizers (Freire, 1998). He created a new teaching method which today stays at the center of the paradigm of sustainability and democracy (Harvard Educational Review, 2000). Freire was a leading voice against the so-called “*banking concept of education*” that de-humanize both teachers and students, see them as “containers” to be uncritically filled with information, and ***stimulates oppressive attitudes and practices in society***. As he wrote for the “banking education” – “Education thus becomes an act of *depositing*, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat” (Freire, 2000).

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secondly, through the creation of new faculties, new sciences and new subjects, a process that today represents something rather more usual than revolutionary.

Paolo Freire raised the concept of the “**Problem-posing education**” (**L’educazione problematizzante**) that bases itself on *creativity and dialogue*, and stimulates true reflection and action upon reality” contrary to the “**banking**” concept of education that represents “an instrument of oppression” and make students repeat and memorize *information* instead of reflecting and creating *knowledge*.

Freire tried to democratize and humanize education as firstly resolve “the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers and students”. He noted that “banking education maintains and even stimulates this contradiction through the following attitudes and practices, which mirror oppressive society as a whole”, and underlined that the current de-humanizing oppressive model of banking education is based on the following principles that must be abolished and replaced by **dialogue** and **conscientization**:

- (a) the teacher teaches and the students are taught;
- (b) the teacher knows everything and the students know nothing;
- (c) the teacher thinks and the students are thought about;
- (d) the teacher talks and the students listen-meekly;
- (e) the teacher disciplines and the students are disciplined;
- (f) the teacher chooses and enforces his choice, and the students comply;
- (g) the teacher acts and the students have the illusion of acting through the action of the teacher;
- (h) the teacher chooses the program content, and the students adapt to it;
- (i) the teacher confuses the authority of knowledge with his own professional authority, which he sets in opposition to the freedom of the students;
- (j) the teacher is the Subject of the learning process, while the pupils are mere objects (Freire, 2000: 71-87).

Freirean method, in alternative offers the concept of “conscientization” (la coscientizzazione) – that means “consciousness raising/critical consciousness” and represents Education as a process of *dialogue* through which students and teachers together can shape and create more democratic, conscious and humane society.

#### **1.4. Sustainable curriculum: New Sciences and Programs for Sustainable Development. The first Faculty of Sustainable Development inaugurated in Trentino!**

Clearly, new awareness and new thinking are producing new sciences as well as new legal approaches.

Doubleday, 1993

Three fundamental sciences for sustainability that reflect also the specificity of the region of Trentino were completely developed and integrated at all levels of the school and university system in Trentino: “Ecopedagogy”, “Traditional Ecological Knowledge” (TEK), and “Green economy and Green jobs”. On the base of their development, the University of Trento has

opened the first Faculty of Sustainable Development in the world. The Faculty of Sustainable Development offers undergraduate, graduate and post-graduate as well as free open courses and programs in 7 basic new sustainability fields and sciences:

Ecopedagogy;  
Traditional Ecological Knowledge (TEK) and Commons;  
Green Economy and Green Jobs;  
Eco-Vocational Education and Training;  
Peace and Human Security Studies;  
Futures Studies in Sustainability;  
Models of Participatory and Direct Earth Democracy.

Another educational change realized in Trentino is the introduction of obligatory “Healthy Development, Outdoor Education and Sport Programs” in the university and school system that occupy a significant share of all the time spent in the structures of education. These sport, healthy programs and outdoor education are designed to educate for complex development of “the mind and the bodies” and prevent the development of group scientific, school and personal alienation that is a base of the “one-dimensional man” and one-dimensional development (Marcuse, 1964).

Integrated robustly in schools, but also in university, the healthy development and sport programs based on play and nature element represent an alternative to the “commercialization of the childhood” and adulthood, and they were a step towards building a “commercial-free childhood” and life (Linn, 2010, Assadourian, 2010). The healthy, sport and outdoor educational programs in Trentino are connected with the development of university and communal “Paradise gardens” – common and community spaces – centers of organic life, where people can plant trees and plants for free, and then enjoy the fruits freely.

Among the most important things stays the fact that the system of education in Trentino and the university succeeded to develop and preserve a system of **Public Participatory Education** that gives to poor people the opportunity of study and support in hard times. Let’s start now reviewing the sciences for sustainability offered in Trentino’s schools and the university in 2035.

### “Ecopedagogy”

When talking about Ecopedagogy, I prefer to start with the definition that “Ecopedagogy is a total liberation pedagogy for sustaining life” (Kahn, 2008a:12). In such a way Ecopedagogy represents a *participatory creative* love-based pedagogy<sup>3</sup>.

Ecopedagogy 1) Initiates and internalizes new crucial ecoliteracies, and ecomodels of lifestyle and consumption, and 2) Educates critically students for organizing new *sustainable policies* in local and global society.

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<sup>3</sup> “Love” – Love to the Nature, life, humans and animals, Love to the love itself, represents the fundamental alternative to the consumerism and the commercialization of children’s, parents’ and animals’ life. For this reason, Schools, Universities and Libraries are to become centers of love and pro-life liberation politics instead of being organizers of the consumer-centered materialistic values and one-dimensional life.

Shortly, Ecopedagogy is a *participatory and creative, love-based* education for creating new sustainable civilization.

Pedagogically, what radically distinguishes Ecopedagogy from the prevailing massively commodified and instrumentalistic, deterministic, top-down pedagogies that are often fear-based and stress-generating is that Ecopedagogy is *participatory and creative, love-based* process of pedagogy for creating humane and ecological sustainable alternatives in reality .

“Ecopedagogy began in a Latin American educational context, growing out of discussions conducted at the first Earth Summit, held in Rio de Janeiro, Brazil in 1992, in which movement intellectuals desired to make a systematic statement about the interrelationship between humanity and the Earth and formulate a mission for education to universally integrate an ecological ethic – a document that would eventually be ratified as the Earth Charter in 2000. In 1999, the Instituto Paulo Freire under the direction of Moacir Gadotti, along with the Earth Council and UNESCO, convened the First International Symposium on the Earth Charter in the Perspective of Education, which was quickly followed by the First International Forum on Ecopedagogy” (Kahn, 2008a:8). Key figures in relation to the origin of Ecopedagogy are the eminent educator and critical pedagogy theorist Paulo Freire, who worked on a book on Ecopedagogy until his death in 1997, as well as Francisco Gutierrez and Cruz Prado who published “*Ecopedagogia e Cidadania Planetaria*” in 1999. Again in a Latin American context, at the Paulo Freire Institute, in São Paulo, “a concept and vision of Ecopedagogy (initially called Pedagogy of Sustainable Development) was created as an appropriated pedagogy for the Earth Charter, environmental education and education for sustainable development (Gadotti, 2008: 17).

In the North American and European contexts, Ecopedagogy is being developed by Richard Kahn, who together with Levana Saxon has founded the Ecopedagogy Association International (EAI), which is “a primary hub for coordinating work on ecopedagogy around the world”, and is home of “*Green Theory and Praxis: The Journal of Ecopedagogy*”.

Taking breath from critical pedagogy and critical theory, and in the same time transcending them, Ecopedagogy represents “a new model for sustainable civilization” (Antunes&Gadotti, 2005), a movement, historical organizational force (Kahn, 2010: 26). In two major books on ecopedagogy, and in many essays, Kahn has theorized and has organized ecopedagogy as a movement and a total liberation pedagogy for sustaining life (Kahn, 2008, 2010), as well as Cognitive Praxis and Ecoliteracy Theory that is to take place in schools and society as: Critical Curricular Program, Critical Organizational Change in Higher Education, and Critical Public Pedagogy (Kahn, forthcoming). In this way Ecopedagogy aims also at updating current educational structures and creating sustainability through developing and internalizing new crucial ecoliteracies. Here we offer a simplified version of a curriculum program of ecopedagogy based on educating at least 4 basic ecoliteracies relevant to the context of Trentino.

### 1. Cultural ecoliteracies

Ecopedagogy offers cultural ecoliteracies “that can produce multiculturally relevant knowledge of how diverse cultures differ in their ways of relating to and understanding nature’s order, how they may interact with one another in ecologically and educationally beneficial ways, and how they may learn to manifest cultural action for ‘ecologies of freedom’ (see Bookchin, 2005). It seeks knowledge of how sustainable cultures are presently resisting their assimilation by re-defining themselves around vernacular social practices that strengthen community and commons-based approaches to living well” (Kahn, 2008a:10). The role of Traditional ecological

knowledge is emphasized in the cultural ecoliteracies developed by ecopedagogy (see Kahn, 2010:103-123)

## 2. Critical Eco-social Literacies

Critical thinking has a principle role in constructing sustainable development (UNESCO, 2006). Critical Eco-Social Literacies aim at revealing locally and globally the current social and political sources of eco-problems and unsustainability as well as the ways they can be eradicated and substituted by sustainable policies, initiated participatively by educands, educators, and civic-minded people.

## 3. Critical Techno Literacies, Critical Media Literacies and Critical Computer Literacies

On the one hand, each technology represents ideology, ideology that can be authoritarian or democratic, constructive or destructive (see Mumford, 1964a). And as technology itself is becoming a new dominant and parallel world of the world of nature, it becomes the greatest source of unsustainability which poses a threat to the balance of ecosystems, society and the mental development especially of young people. As Bob Dylan noted, “It’s peculiar and unnerving in a way to see so many young people walking around with cell phones and iPods in their ears and so wrapped up in media and video games.... It’s a shame to see them so tuned out to real life. Of course they are free to do that, as if that’s got anything to do with freedom. The cost of liberty is high, and young people should understand that before they start spending their lives with all those gadgets” (in Kahn, 2010: 84).

On the other hand, “during the past decades, the culture industries have multiplied media spectacles in novel spaces and sites, and spectacle itself is becoming one of the organizing principles of the economy, polity, society, and everyday life” (Kellner, 2003a:1) Media spectacle, as Douglas Kellner has comprehensively theorized it (Kellner, 2003, 2004, 2005, Kellner&Hammer, 2009), has become dominating as a new form of collective ‘knowledge’ and ‘reason’, and as a new artificial reality – source of unchecked mis-information, mis-culture, and mis-education.

All these innovations in life pressingly demand the development of new Critical Techno, Critical Media and Critical Computer Literacies in schools through which the interests and ideology behind technologies, multimedia and media spectacles can be decoded and legitimize or de-legitimize participatively in an engaged normative discourse (see Kellner&Share, 2007, Kahn, 2010: 61-77, Giroux, 2002). This type of literacies also has the aim to enable people produce alternative eco-media and eco-technologies.

## 4. Eco- Creative Literacies

Creative and realistic utopian thinking appears to be the fundamental force for the creation of ecological, humane and sustainable alternatives. As it seems to be, one of the major crises today is the crisis of the humane and humanistic imagination and education (Kahn&Tyson 2009, Best&Kellner 2001). Eco-creative literacies have the aim to concentrate the attention of people on the creation of “New possible worlds” (Grigorov, 2009: 104, 105) that represent sustainable alternatives and new models of civilization. In this way Eco-creative literacies are participatory creative literacies that address the construction and experimentation of new sustainable alternatives, such as new participative eco-democratic media structures, new “nature cultures”, new eco-projects for sustainable cities, technologies, economy, etc.

## “Traditional Ecological Knowledge (TEK) and Commons”

Trentino-Alto Adige is an autonomous region proud of its specific culture and traditions, and Traditional Ecological Knowledge (TEK) is namely the science that reflects these sustainable traditions and culture.

TEK represents “ways of being, wisdom, and cultural continuity acquired over thousands of years of direct human contact with the environment” (Berkes, 1993, Kahn, 2010:105). As Kahn argues, “TEK is not just a legitimately real science but also a new science for ecological democracy in the twenty first century and beyond” (Kahn, 2010:107-20). Some specific characteristics of TEK according to Berkes (1993) are that:

- “1. TEK is mainly qualitative (as opposed to quantitative);
2. TEK has an intuitive component (as opposed to being purely rational);
3. TEK is holistic (as opposed to reductionist);
4. In TEK, mind and matter are considered together (as opposed to a separation of mind and matter);
5. TEK is moral (as opposed to supposedly value-free);
6. TEK is spiritual (as opposed to mechanistic);
7. TEK is based on empirical observations and accumulation of facts by trial and-error (as opposed to experimentation and systematic, deliberate accumulation of fact);
8. TEK is based on data generated by resource users themselves (as opposed to that by a specialized cadre of researchers);
9. TEK is based on diachronic data, i.e., long time-series on information on one locality (as opposed to synchronic data, i.e., short time-series over a large area)”.

TEK is particularly relevant to ends connected with sustainable management of natural resources. The International Union for Conservation of Nature (IUCN, 1986) found the practical role and significance of TEK as:

1. Traditional knowledge for new biological and ecological insights.
2. Traditional knowledge for resource management.
3. Traditional knowledge for protected areas and for conservation education.
4. Traditional knowledge for land use and development planning.
5. Traditional knowledge for environmental assessment.

It could be argued that:

- TEK offers new paradigms of sustainable use of natural resources which are based on preservation, common property and co-management (Doubleday, 1993, Berkes, 1989).
- TEK stays at the center of sustainable and successful “**commons-based**” management and politics, at the center of community-based sustainable development.

Traditional ecological knowledge gives “new legitimacy to the *commons* – a form of property that is neither the market nor the state, public nor private, but rather that people hold jointly and together rather than separately and apart” (Rowe, 2008:140). As J. Rowe exemplifies well, “the parallel economy of the Commons” when based on traditional ecological knowledge represents

much more efficient, productive and sustainable way to organize sustainable life and society compared to the modern and “post-modern” state and corporate models (Rowe, 2008:138-150).

Traditional ecological knowledge represents a way for organizing “community-based sustainable development” (Berkes, 1989). It strengthens communities and community connections; it is a way of “modeling sustainability in community” (Assadourian, 2008).

Well before 2035, Trentino became one of the world centers for the development of TEK as a new and real science and as “an integrated system of sustainable knowledge, practice and beliefs (Berkes, 1993).

### **“Green Economy and Green Jobs”**

In 2007, American environmental and social justice movements organized “the largest ever youth educational lobby on climate change” at the University of Maryland, DC, famous as “Power Shift” (Power Shift 2007, Van Jones, 2009). They demanded for fundamental change of the American and global economy and so brought into existence the *agenda* of “green jobs” and “green economy”. One year after these events in the USA, which pressed for the creating of “Green New Deal” (Jones, 2009:85-119), the United Nations Environmental Program (UNEP) published 2 important rapports in relation to green economy and green jobs: “Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World” (UNEP, 2008) and “Global Green New Deal Policy Brief” (UNEP, 2009).

In the works of UNEP, green economy is seen as “a chance to fundamentally shift the trajectory of human civilization” (UNEP, 2009:4, UNEP, 2008:277).

Van Jones (one of the leaders of the green jobs movement who in 2009 has become a special adviser for green jobs at the White House Council on Environmental Quality) has organized and theorized green economy and green jobs as:

“A historical and revolutionary social struggle for a new livable future that aims to resolve the dual crises in our societies: 1) Radical economic inequality, and 2) Rampant environmental destruction (Jones, 2009: 31-35). He has defined green-collar economy as “one that will create good, *productive* jobs while restoring the health of our planet’s living systems” (Jones, 2009:1).

The United Nations Environmental Program defined “Green Jobs” as: “work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution (UNEP, 2008:3).

As it is argued in the UNEP rapport on green jobs:

“green jobs need to be decent work, i.e. good jobs which offer adequate wages, safe working conditions, job security, reasonable career prospects, and worker rights... A job that is exploitative, harmful, fails to pay a living wage, and thus condemns workers to a life of poverty can hardly be hailed as green” (UNEP, 2008:4).

The definition of “green-collar jobs” is offered in the works of Jones as “family supporting, career-track, vocational, or trade-level employment in environmentally friendly fields” (Jones, 2009). He has conceptualized green jobs as *long-term*, high-quality jobs for local residents with opportunities for career advancement: “if a job improves the environment but doesn’t provide a family-supporting wage or a career ladder to move low-income workers into higher-skilled occupations, it is not a green-collar job... In sum, spurring the creation of green-collar jobs means more than creating short-term work on individual green projects. It means building a sustainable economy, where environmental goals go hand in hand with social and economic goals, it means embracing visionary policies for your community (Jones&Ringo 2008:3).

*Green economy and green jobs represent new models of lifestyle, consumption and production.* In this way they mustn’t be treated simply as “environmental innovation”<sup>4</sup> because the last doesn’t address substantially the problem of the lifestyle and consumption. As many studies argue, “the widespread use of eco innovations does not guarantee overall improvement of environmental quality” and often eco-innovations tend “to do more efficiently that which should not be done in the first place” (Kemp&Foxon, 2007:3, Daly, 2002, UNEP, 2008:73, 80, Ashford, 2002:1417) (a practical example is plastic bags recycling versus the use of cloth bags).

From the other hand, “green jobs” represent new labor models. However as major studies and rapports on the quality of “green jobs” indicate, jobs presented as ‘green’ are often low-paid, harmful and exploitative (Good Jobs First, 2009:34). Industries connected with work in toxic conditions are also mis-presented as green, here especially relevant is the *Hazard Magazine* critique of some dangerous “green” jobs.

The development of really green, humane and sustainable economy and jobs has demanded the interdisciplinary study of green jobs and green economy. While first study programs on green jobs started around 2009 (see the curricula developed by Renner 2009, Evens 2009, 2010), the first interdisciplinary and systematic “green” study programs were developed in Trentino. The programs in green economy and green jobs in Trentino were developed as concentrated on realizing sustainability-in-time in the sectors of energy supply alternatives, transport, services, food and agriculture, forests, buildings, prevention and preservation of territory, tourism in its sustainable variants – ecotourism, agrotourism, responsible tourism, and sustainability education.

### **“Eco-vocational Education and Training”**

Eco-Vocational Education and Training represents sustainable technical education programs that must be in the first place—allowable, i.e. free or not expensive. They aim at (1) educating for creating locally relevant “alternative eco-technics” (renewables, ecovehicles, eco-products); (2) replacing unsustainable technologies with eco-technologies (3) providing training programs for jobs in existing and future green sectors (renewables, eco-transport...).

### **“Peace and Human Security”**

Sustainability cannot be conceived in the presence of present and future wars. Peace and Human Security programs are to develop knowledge and practice of how to use *Education*

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<sup>4</sup> Environmental innovation is a term usually defined as “new and modified processes, equipment, products, techniques and management systems that avoid or reduce harmful environmental impacts, and often eco-innovation is used for shorthand for environmental innovation (Kemp&Foxon, 2007:2).

*structures to organize happiness, human security*<sup>5</sup> *and planetary peace*. As stated by UNESCO (2006, 2010), this is fundamental part of the education for sustainable development. A world full of conflicts, lack of natural resources, and unsustainable destructive technologies demands new Pillars of stability and sustainability across and within societies all over. This is even more urgent today when we have a transition from an uni-polar system of inter-national relations, based on globalization and to certain degree some kind of “soft power” (Nye, 2002) to new “unknown”, unpredictable system of inter-national or -societal global architecture (see also Buzan& Little, 2000) that might be based on the “hardest power”.

And exactly here is the new historical role of Universities and Schools – to be the pillars of planetary stability and sustainability as an organizational base for sustainable local existence and happiness, to educate for sustainable happy development and human security. (Regarding the concept of Human security, see also Acharya, 2008 ).

### **“Futures Studies in Sustainability”**

Already in the 70s and even before, the role of the future in education was emphasized by authors like Aurelio Peccei (1974, 1976, 1982), W. Bell (1972), A. Toffler (1972), and C.Wright Mills (1956, 1959). A curriculum designed to meet local needs and the needs of future (Phi Delta Kappa, 1984) has often been seen as a necessary reform of the system of education.

At the beginning of the new millennium, many researches into young people’s views of the future, at a global level (Australia, USA and Europe), indicated deepening negativity and lack of hope and a sense of powerlessness, connected mostly to environment, economy, employment and health issues (Gidley, Bateman & Smith, 2004:11). As it seems to be, many of the young generations are already born and will be born in a de-naturalized, crazy world, a world of and from technologies, in which nature and animals are rather an exception, or something exotic. This is already the reality in many parts of the advanced civilization – we already live and run in a completely unnatural if not anti-natural, techno-organized “human-built world” (Hughes, 2006). The problem appears now that we are becoming part of technology more than of nature, and in this sense I would speak about “de-naturalization”. Then, no surprise, future generations will not know “the world we have lost” (Laslett, 1983), they will have no real idea of it and will connect the future predominantly with the realm of technology rather than with the realm of living systems and things of nature, if we do not change something now! No surprise again, “most of the futures research indicated that people in general and young people in particular have great difficulty envisioning social futures, as opposed to technological futures. Galtung pointed out that when we hear the term future we seem only able to think of technological futures and largely ignore social futures (Gidley, Bateman & Smith, 2004:41).

The future studies programs developed at the University of Trento are concentrated on 2 purposes:

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<sup>5</sup> Human security is a new paradigm of security that considers the new planetary crises of environment, new global vulnerabilities, and the current interdependency of societies. It is an alternative to the prevailing national security approaches that see the security in the production of more and more destructive weapons which must guarantee Mutual Assured Destruction, the so called “MAD” doctrine.

However, people do outlive regimes and systems, and people are organizing nucleus of life and future. Systems pass away, people remain. So, especially today, security transcends national borders and is possible only as planetary security. Human species is becoming one endangered global people, “one community of shared risks” (Habermas, 1996) that needs not national but Human and Earth security.

1) The construction of human/social futures marked by ecology, sustainability and justice, providing alternatives to technocracy and technocapitalistic economic inequalities and piracy (Darder, 2010:xi).

2) Development of empowerment-oriented future studies (futures studies providing students with the knowledge and capacity to control the future in such a degree that at least would planetarily prevent further deterioration and destruction of nature and societies).

### **Models of Participatory and Direct Earth Democracy**

This is another science for sustainability that explores and put in practice new *multi-level systems* of participatory and ecological democracy, including also the development of planetary security by “transnational referenda” (see Held, 1995, 2006, Schiva, 2006). It aims at the construction of democratic and ecological systems of economy and life by organizing people’s *direct participation* at local, regional, national, transnational, and planetary level by the means of the educational system, and in particular, mostly by Universities (see also Grigorov, 2009:105).

### **Conclusion**

The characteristics of Sustainability education in Trentino in 2035 can be found mostly in the New paradigm of the University and Schools as well as in the development of new fields and sciences for sustainability, realized with the decisive support of the Autonomous Province of Trento.

Trentino’s schools in 2035 represent new centers of the new values of sustainability organizing sustainable and ecological social policies. They are practically and locally engaged in inspiring, educating and realizing sustainable, harmonious, and happy development of the region.

The University of Trento, on its part, has become pioneer of the first Faculty of Sustainable Development in the world and has become an international model for new sustainable and socially responsible university, university of the future.

The identity of Trentino as a place of democracy, peace and social justice, land of humanistic progress and natural beauty was preserved and promoted for the future generations through the development of Ecopedagogy, Traditional Ecological Knowledge, Futures Studies in Sustainability, Peace and Human Security Studies, Models of Participatory and Direct Earth Democracy.

Through the organization of the so-designed multidimensional education for sustainability, Trentino has given its important contribution for the global development and advance of Sustainability.

### **Concluding Table**

As concluding remarks of each chapter of this futures study we will offer a table which synthesizes some basic variables: 1) **Forces/Problems/Factors** causing the need of sustainable reconstruction of the educational system in Trentino as well as 2) **Targets** that would play key role for the creation of Trentino’s sustainability education. In this way, the tables after each chapter will contain the same main variables and their state for different years – 2035, 2010, 2020.

Table 1.

<b>2010 – 2035 BASIC PROBLEMS/FORCES/FACTORS that would shape the Future and demand New Fields of Study &amp; New Sciences</b>	<b>2035 TARGETS New Necessary Sciences</b>
Climate Change in Trentino	Ecopedagogy
The Transformation and the Re-Imagining of Local and Political Community	Traditional Ecological Knowledge & Commons
Transformation or Decay of the “New Economy” and Beginning of “Green Economy”	Green Economy and Green Jobs
Natural Resources Depletion. More and more Extreme Pollution, Greediness, Conflicts and Health Problems	Eco-Vocational Education
Global Need of Peace and discontinuation of any Wars	Peace and Human Security Studies
Urgent Need to save the Nature and the Planet	Models of Participatory & Direct Earth Democracy
The prospect for Trentino to become an international leader and Avatar of Sustainability, Sustainability Education and “Green jobs”	Futures Studies in Sustainability
We Ourselves – a Realized Force for more Ecological, more Just and Happier Future	Educators organizing Sustainability education, its agenda and activities.

## **Chapter 2:**

# **The Present Future: Trentino 2010. From Environmental Education to Educating for Sustainability in Schools, Society and the University**

### *Introduction*

The first chapter of this study was concentrated on identifying, mapping and projecting such a type of education and educational architecture that would be capable of leading to the real organization of Sustainable life, society and development in and beyond 2035 in the Autonomous Province of Trento. The aim of the second chapter is to examine the existing architecture of pro-sustainability-oriented education in Trentino. The chapter will include and map the present structure and programs of Environmental education for sustainable development in Trentino as well as the role and the number of educators engaged in teaching towards sustainability in schools, university and society. The fundamental difference between the modern Environmental education that started already in the 70s and the Sustainability education which is a fruit of the New Millennium will be emphasized.

Key words:

Environmental Education, Sustainability Education, Province Agency for Protection of Environment (APPA), Trentino's Network of Environmental Education for Sustainability; Environmental Information, Training and Education (INFEA); Environmental Educators.

### **1. Environmental Education (EE) and Education for Sustainability (ES) in Trentino**

Since the beginning of the modern EE which started in Trentino in the 80s (PAT, APPA, 2009), an excellent basic system and infrastructure of environmental education has been created in the Autonomous Province of Trento. In the same time, Environmental education principally and significantly differs from Education for Sustainability (UNEP, 1972, UNESCO, 2006:17). EE is generally concentrated on the explanation of the Nature, the balance and the values of its ecosystems, on why humans must love the environment, how humans must care of it and preserve its existence. According to the UNESCO's last report on Education for Sustainable Development (ESD):

“EE narrowly focuses on environmental protection, natural resource management and the conservation of nature, ESD constantly goes further by bringing in socio-economic, political and cultural dimensions. In a sense, EE had become outdated and needed to be upgraded and replaced by ESD to better focus not only on the Planet but also on the people and prosperity aspects of environmental and sustainability issues” (UNESCO, 2009:29).

Let us emphasize and repeat again that ESD or ES: “aims to change radically and structurally the very human society as replace the dominant destructive models of economy based on global

consumerism, massproduction, technocratism, massmedia spectacle and war industries. Sustainability education aims at *structural and real life changes* that include the scientific and cultural preparation of new and sustainable local eco-economies, eco-cities, eco-transport systems, sustainable schools and universities that to prepare young generations for new sustainable eco-jobs, for peace, active citizenship and livable future” (Chapter 1, pg.7).

Active and responsible citizenship and democracy that is inclusive, participatory and empowering (UNESCO, 2009:7,22,55) is right in the essence of Sustainability education. Through participatory democracy namely, people could sustainably decide what will happen to society tomorrow, where will go society itself” (Grigorov, 2010). For this reason, the realization of Sustainability education demands recognition of its democratizing political nature and its rigorous structural integration into the center of the curriculum of High schools and Universities (see also UNESCO, 2009). It is a shift in the philosophy of education, in the very politics of democracy and education.

The problem of the transition from Environmental education to Education for Sustainability is viewed in the new *Province Program INFEA* (Environmental Information, Training and Education) 2009-2011 where the differences are implied and a possible construction of a variant of Education for Sustainability in Trentino is considered (figure 1). It is noted that Education for Sustainability would be something more complex than the now existing system of EE and would include formal, non formal and informal forms of education, i.e. the University, Schools, Networks and associations concerned with EE, as well as the Massmedia structures (PAT, APPA, 2009). In the same Program INFEA 2009-2011, a necessary collaboration with the University of Trento is proposed for the realization of a new course that must prepare “Experts of Environmental education” (PAT, APPA, 2009).

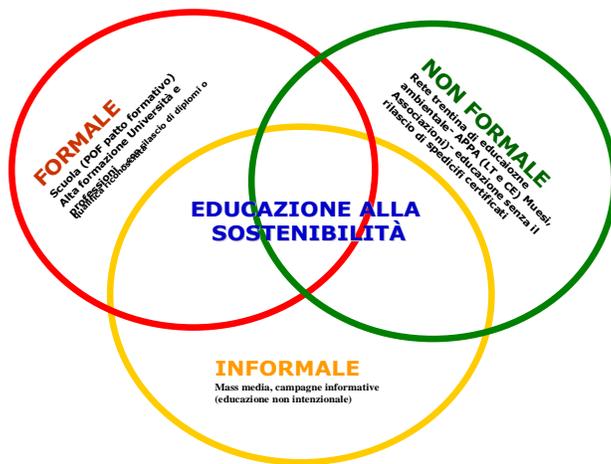


Figure 1. taken from the Province Program INFEA 2009-2011, pg. 14

### 1.1. Current initiatives of Environmental education in Trentino: Kindergartens, Schools and the University

The Environmental education in the kindergartens and schools of Trentino is organized on a voluntary basis (APPA, 2010:90-94), it is not articulated in proper disciplines or as a permanent indispensable part of the curriculum.

Although its voluntary basis (realizing processes of environmental education on request), for the year 2008-2009 in such processes have participated:

- 104 classes (2404 pupils) of Kindergartens,
- 562 classes of 10532 pupils from Primary schools and Media schools (Istituti comprensivi),
- 58 classes (1253 students) of High schools (Scuole superiori) (APPA, 2009:21-23).

According to M.Tamanini (the coordinator of the Trentino's Network of Environmental Education for Sustainable Development), the environmental education initiatives in Trentino become rarer with the increase of the age of students, as in High schools and especially at the University, less or no time at all is dedicated centrally to Environmental Education or Sustainability Programs. The lack of collaboration with the University of Trento regarding environmental education and sustainability programs is emphasized as a significant hindrance for the development of sustainability-oriented education in Trentino.

The University of Trento, currently, does not offer any courses or programs centered on Environmental education, Education for Sustainability or Sustainability Politics in general. It could be mentioned that at the Faculty of Engineering there exists a Ph.D. Program in "Environmental Engineering" in which the field of Sustainable Buildings is emphasized, and at the Faculty of Sociology is available a Masters Program in "Society, Territory, and Environment" which offers a course in Sociology of Environment (University of Trento, 2010).

Another Educational and Research Institute that is concerned with environmental topics is the "Fondazione Edmund Mach – Istituto Agrario di San Michele all'Adige". It offers research programs in the area of Agriculture, Environment, Natural Resources and Climate Change (FEM, 2010). However, "Fondazione Mach" is not a structure of "popular" or "mass education" and in this sense it acts just as an Institute, as well developed and internationally recognized "Agrarian Institute", center of research and innovation. And secondly, the activity of the institute is concentrated on Environmental Research, and does not offer courses or projects centered on Sustainable Development or Sustainability in their strict sense, which as emphasized by UNESCO and UNEP, examines centrally also the *political, socio-economic, and cultural dimensions of society*.

## **1.2. Actors organizing Sustainability-oriented education in Trentino**

The development of the system of Environmental education in Trentino started in the 1980s with different initiatives. Among the first ones were the development of "naturalistic didactics" and the introduction of a new figure related to the popularization of environmental activities, called "ecological operator" or "green-collar worker" (PAT, APPA, 2009). Consequently, the EE in Trentino has followed the road of development of the National system INFEA (Environmental Information, Training and Education) aimed at the construction of Environmental education at national level through the creation of *Regional Networks and Centers of Environmental education*. The coordination and organization of the project INFEA in Trentino has been delegated to the Province Agency for Protection of Environment (L'APPA) that started elaborating the Province Program INFEA after year 2000.

Today, the existing structure of EE in Trentino is composed of Province's Services and Agencies, Networks of Natural parks, Museums, Eco-museums, School Networks, Cultural institutions and Associations, "Fondazione E. Mach", and others. Among the most important

entities designed to organize and coordinate the EE in Trentino can be mentioned: L'APPA and in particular the "Trentino's Network of Environmental Education for Sustainable Development".

### **1.3. "La Rete Trentina di Educazione Ambientale per lo Sviluppo Sostenibile"**

"Trentino's Network of Environmental Education" was born in 2000, after the enactment of the provincial law 3/99 that entrusted to the APPA (sector Information and Environmental quality) the programming and the governance of the environmental education activities in the Autonomous Province of Trento. The network carries out the activity of Environmental Information, Training and Education (INFEA), and is available to serve for free to the local administrations, the school world, firms, voluntary associations, to create, at all levels, active citizenship able to live with conscience the relationship with its territory" (APPA, 2009:15).

Trentino's Network of EE for Sustainable Development is composed of 11 Territorial Laboratories of Environmental education, 11 Experience Centers governed by it, and 4 Experience Centers run by other entities.

Territorial Laboratories are located in the most important valleys of Trentino and represent centers for the promotion and coordination of the activity of Environmental Information, Training and Education (INFEA)" (APPA, 2010:7). Environmental educators are responsible for the functioning of the Territorial laboratories of EE as their scope of activity is diffused over the specified area. Territorial laboratories are places for meetings, conferences, and different campaigns which have the purpose of educating and stimulating environmental sensibilization and pro-sustainability behavior in students, teachers, associations, families and society.

The Experience Centers of Trentino's Network of Environmental Education on its part are located in places of particular natural interest, close to mountains, forests, lakes, parks, observatories, special ecosystems, fields, meadows, agricultural spaces. The activities carried out there vary from mere observation of the live of ecosystems to the realization of vegetable plots and gardens in parks (APPA, 2009:146).

Another part of the offer of Trentino's Network of EE are the so-called "Itinerant Interactive Exhibitions", organized mostly in schools and concerning wide spectrum of environmental problematique. In the time of the visit of some exhibitions, students can experiment for example with different types of energy and can learn together to realize sustainable practices.

The activity of the Trentino's Network of EE can be traced through the annual "*Guide to the activity of the Trentino's Network of EE for Sustainable development for the Schools in Trentino*". The first Guide was published for the school year 2003-2004, as the current Guide for the schools (2010-2011) contains also the so-called "yellow pages" in which information about the different entities engaged with environmental activities can be found.

### **1.4. Environmental Educators in Trentino**

The figure of the "environmental educator" that is part of the Trentino's Network of EE has the role to manage the Territorial laboratories and Experience centers, to give lectures in schools as well as to partake in the elaboration of proposals for environmental didactics for schools. The number of environmental educators in Trentino for the year 2009 is 40 (APPA, 2010:10), as they

come from various fields of study – natural sciences, philosophy, sociology... A census of environmental educators has started in 2010 for all the region of Trentino, the results of which however will be published in 2011 (Tamanini, 2010). The need for perfection and update of the knowledge and competences of environmental educators is underlined in the Province Program INFEA 2009-2011 as a future cooperation with the University of Trento for the creation of a new course of “expert of environmental education” is envisaged. In this vein, the forthcoming book: “Ecopedagogy: Educating for Sustainability in Schools and Society” (Kahn, 2011) can be mentioned as a perfect future textbook for courses in Environmental studies, offering robust and multirelevant forms of ecoliteracy.

### **Conclusion: From Environmental Education towards Education for Sustainability.**

What can be observed today in Trentino is a well-developed system of EE which together with its 11 Territorial Laboratories and 15 Experience Centers represents a wonderful sustainability-oriented educational infrastructure. For the last 15 years of neoliberal globalization, however, human society has dramatically changed its impact over the planet. The globalization of mega-consumerism, unregulated mass production, incessant technocratic development and the expansion of massmedia spectacles and real war, all for the expense of the crisis of values as love, peace, family, simple and natural lifestyle, has imposed a radical re-thinking of the human society itself. The idea of Sustainable Development, developed still in the 70s by the Club of Rome and “institutionalized” in 1987 by the Brundland Commission, has been brought to light again in the New Millennium as the global society is entering into stunning planetary crisis.

Education for Sustainability has appeared on the horizon to organize fundamental structural and cultural changes in society. It strives to re-orient the activity of Society, Schools and Universities towards preparing new infrastructure of Sustainability instead of supporting the techno-cultural structure of the global commercialism and consumerism. The realization of Education for Sustainability has been considered in the new Province Program INFEA (2009-2011). At this stage, the existing structure of EE for Sustainable Development in Trentino appears as necessary infrastructural precondition for future advance. What comes now to be realized, in order for sustainable life, society and development to be constructed in Trentino, is however, the integration of Sustainability Education centrally in the structure and the curriculum of Trentino’s Schools and especially at the University of Trento. The sooner, the better.

### **Concluding Table**

The concluding table for this chapter shows the current (2010) state of the 2035 Targets as well as the 2010 state of the Basic forces/factors/problems.

Table 2.

<b>2010 - 2035 BASIC PROBLEMS/FORCES/FACTORS that would shape the Future and demand New Fields of Study &amp; New Sciences</b>	<b>2010 STATE OF FORCES</b>	<b>2035 TARGETS New Necessary Sciences</b>	<b>2010 STATE OF 2035's TARGETS</b>
	++++		++++
Climate Change in Trentino	+	Ecopedagogy	—
The Transformation and the Re-Imagining of Local and Political Community	++	Traditional Ecological Knowledge & Commons	++
Transformation or Decay of the “New Economy” and Beginning of “Green Economy”	+	Green Economy & Green Jobs	+
Natural Resources Depletion. More and more Extreme Pollution, Greediness, Conflicts and Health Problems	—	Eco-Vocational Education	+
Global Need of Peace and discontinuation of any Wars	++	Peace and Human Security Studies	—
Urgent Need to save the Nature and the Planet	+	Models of Participatory & Direct Earth Democracy	+
The prospect for Trentino to become an international leader and Avatar of Sustainability, Sustainability Education and “Green jobs”	+	Futures Studies in Sustainability	++
We Ourselves – a Realized Force for more Ecological, more Just and Happier Future	—	Educators organizing Sustainability education, its agenda and activities.	+

## Chapter 3:

### **Bridging the Gap: 2020-2035.**

### **Undergraduate and Graduate Program in “*Ecopedagogy, Sustainability and Future for All*”. University of Trento, around 2020**

#### *Introduction*

In the first chapter of this futures study, a “desired future” and a vision for Sustainability Education in Trentino for 2035 were constructed and presented. The second chapter has mapped the present situation of the pro-sustainability Environmental Education in Trentino, its structures, organizers and resources. This 3<sup>rd</sup> chapter aims to come closer to the present and bridge the gap between the years 2020–2035. It presents and proposes the development of a five-year Undergraduate&Master Program in “*Ecopedagogy, Sustainability and Future for All*”. This program is to be initiated and realized as a project-based and internationally recognized sustainability course at the University of Trento in the years around 2020.

Key words: Language of the Future, Under/Graduate program in Ecopedagogy, Sustainability and Future for All (ESFA), Consumerism, Consumer Pedagogy, Sustainable Cities, Sustainable lifestyle and Culture, Sustainable Economy, Sustainable Education and Knowledge, Sustainable Political System.

#### **1. Sustainability Education – The Language of the Future**

The global need towards a radical and now-needed re-direction of the existing systems of formal and informal education was boldly underlined in the recent activity of the United Nations Agencies of UNESCO and UNEP (UNESCO, 2006, 2010, UNEP, 2008), as well as in this year’s editions of the The Worldwatch Institute, especially in “2010 State of the World”. Under the title “Transforming Cultures: From Consumerism to Sustainability” it all argues for that *now* we need to act *strikingly* in order to change the essence, the face and the role of education and culture so as to center them on sustainability. Here I would present some indicative passages taken from the “State of the World 2010” and “Vital Signs” (Worldwatch Institute, 2010)

#### Current Facts:

Several million pounds of plastic enter the world’s oceans every hour (Worldwatch Institute, 2010a).

The most devastating types of natural disasters continue to rise steadily, especially for weather-related events” (Worldwatch Institute, 2010b)

For many people, especially those in the Westernized world, the most direct relationship they have with nature (apart from the air they breathe) is through the food and water they consume (Worldwatch Institute, 2010a:58).

Constataion:

**Like a tsunami, consumerism has engulfed human cultures and Earth’s ecosystems. Left unaddressed, we risk global disaster. But if we channel this wave, intentionally transforming our cultures to center on sustainability, we will not only prevent catastrophe but may usher in an era of sustainability—one that allows all people to thrive while protecting, even restoring, Earth.**

In order for Sustainability to be even imagined, and moreover – to be realized, a new “*language*” is necessary, it is a language of the future, one language of human beings that to live in peace and harmony with the world of Nature and with themselves. In this chapter, I take up the challenge to offer the serious considering and development of a new “Ecopedagogy, Sustainability and Future for All” course at the University of Trento.

**2. University of Trento, around 2020. *Undergraduate and Master program in “Ecopedagogy, Sustainability and Future for All”.***

Days ago we celebrated and entered in 2020. Only a decade has passed since 2010, but time seems to have changed its speed. In these 10 years happened things that usually, normally, could happen for no less than 30-40 years.

It is January, but it is a dry, sunny and hot day. However, we can’t recognize the season. Ten years ago education addressed virtually everything but anything that could help resolving our most pressing problems threatening the life and the planet Earth in the most real and measurable dimensions. In 2010, the University of Trento was offering various programs and courses – from Latin and Greek Languages to Computer Sciences, everything except what our and future generations urgently needed: Sustainability, Ecopedagogy and Future. Thousands of students and hundreds of researchers were prepared for business and engineer jobs that obviously couldn’t be sustained in the future and that now does not exist (see David Orr, examining current educational programs and curriculum as “a problem and as a dangerous thing” (Orr, 2004:17, 2005) ). Millions of Euros were invested in educational programs, technologies and activities which even were not aimed at improving the environment and cities, the life of the human beings and the Earth in any way.

This year, 2020, the University of Trento has launched the Undergraduate and Master program in Ecopedagogy, Sustainability and Futures for All (ESFA). It is one of the few programs worldwide which allows students to take care for and reorganize sustainably their Life, City, Society, and Future Perspectives, an unique program which interactively develops in students the humane capacity, the will, the culture and the spirit to decide and determine their own future and the future of society for Sustainability to come.

I myself feared that it is too late, but as it seems to be, it is never late to do something good. A great number of people from all over the world have enthusiastically applied to enroll in the new program, in the hope that it will provide them with the opportunity to reorganize and change their societies and future, to create sustainable economy and lifestyle which does not obliterate the living beings and the life on this Planet.

They believe so, because the new program “ESFA” educates and offers the top prospects for humane self-actualization, employment and multidimensional realization.

The Undergraduate and Master Program in Ecopedagogy, Sustainability and Future for All:

- Represents a way to enter in real life as an active citizen, having identity, heart, ideas and voice, “as a transmitter of sustainable life and as a creator (Mumford,1964:110,140). Since the program is organized as a *Project* Program, its aim is the generation and the realization of real projects that can in reality transform society, cities and economy towards Sustainability.
- Educates and transmits the new values and the new philosophy of Sustainability that opens new horizons of hope and progress.
- Gives hope, social and personal prospects as prepares Jobs that are sustainable, humane and needed.
- Offers new sustainability pedagogy – *Ecopedagogy* – internalizing the values of sustainable life and development, one based on love, peace, creative play, justice, critical and creative thinking and opposing to the prevailing today *one-dimensional consumer pedagogy* generating egoism, stress, subordination, compulsion, and alienation.

### **2.1. Structure of the course in Ecopedagogy, Sustainability and Future for All (ESFA)**

#### *Dedication*

The program in Ecopedagogy, Sustainability and Future for All is dedicated to the urgent need of theoritization and practical realization of the meaningful eco-paradigmatic and historical shift which needs now to be made in society, city, economy and politics in order to prevent eco and socio-economical disasters and achieve sustainability at local and global scale.

The program itself is organized around the study of 3 basic sustainability fields: Ecopedagogy, Green Economy & Green Jobs, as well as Empowerment and Sustainability Oriented Futures Studies. They will develop in students the knowledge and the practical capacity needed to initiate and realize a sustainable transformation of society in all its dimensions. This will include the exploration and the interactive development of avant-guard models and projects concentrated on:

- Sustainable Lifestyle and Culture
- Sustainable Cities
- Sustainable Economy
- Sustainable Political Systems
- Sustainable Education, Knowledge and Pedagogy

#### *Structure*

The course in ESFA is with duration of 5 years. Two of them are devoted to the practical development and the realization of individual and group projects which purpose is to initiate and fulfill sustainable change in society. For this aim, the collaboration with the Autonomous Province of Trento, as well as with democratic and sustainability social movements and associations, with local communities and citizens, is emphasized.

The courses offered in the 5-year program are as follows:

#### **1<sup>st</sup> year:**

- Introduction into Sustainability and Models of Sustainable Society
- Ecopedagogy
- Green Economy and Green Decent Jobs

- Environmental Law
- History and Politics of Globalization
- Futures Studies
- Peace and Human Security
- Outdoor Education and Sport

### **2<sup>nd</sup> year**

- Traditional Ecological Knowledge (TEK) & Commons
- Sustainable City
- Models of Participatory and Direct Democracy
- Crisis and Risk Management
- Sustainable Futures
- Eco-Professional Education and Training
- Data Analysis
- Computer Literacies
- Outdoor Education and Sport

### **3<sup>rd</sup> year**

- Sustainable Technics
- Critical Media Literacy and Sustainability Media
- Laboratory in Ecopedagogy
- Laboratory in Green and Decent Jobs
- Outdoor Education and Sport

### **4<sup>th</sup> and 5<sup>th</sup> Year**

The last 2 years of the program are planned for the development and the realization of Group and individual Projects on:

- Sustainable Culture and Education
- Sustainable City
- Sustainable and Humane Eco-economy and Green Jobs
- Alternative Sustainability Media
- Methods of Participatory Democracy and Active Citizenship
- Sustainable Futures

## **2.2. Career Opportunities**

*Jobs in future will be all about Sustainability!*

*The world is at stake now – Elites, forget the Greediness!*

New Sustainable Cities are needed, new Sustainable Energy sources, new Sustainable Basic “Industries”, new Sustainable agricultural and food practices, new Sustainable Transport systems, new Sustainable Culture of Life! Not only in theory, but mostly in practice.

Who is going to prepare all that, it is urgent and inevitably related to preserving society and life not only in the distant future but rather now? The world is becoming a *global ghetto*, and no place can stay untouched (Home, 2009). Sadly, education now prepares en masse students for

living in the past, for unemployment; educates them in the short-term spirit of mega-consumerism and commercialism, the spirit of being consumer instead of being creator.

Investing today in the “Ecopedagogy, Sustainability and Future for All” (ESFA) program means investing in a livable future, investing in tomorrow’s air, water, food; it means living in peace after 10 years.

The job opportunities for those graduating in “Ecopedagogy, Sustainability and Future for All” are connected with preserving life on the Earth and the Earth itself. This supposes maximum level of employment, personal satisfaction, self-actualization and social utility and dignity. Graduates of the course in ESFA would be able to start eco-career as:

- Sustainability leaders, researchers and activists that to initiate and organize a sustainable civilization.
- Workers in Green Economy
- Designers of Sustainability programs at all levels
- Educators in Schools and Society
- Entrepreneurs of Eco-economy and Eco-cities
- Green Policy advisers
- Happy people that have the moral, the strength and the spirit to change and lead the world and themselves forward.

### **Conclusion:**

For concluding this chapter, I would like to say that we could now live in a more natural and more peaceful, happier world full of creativity, beauty and hope, instead of societal degradation and techno-organized destruction and *illusions*, if there were more people to pay attention to What is Education and Life for! Sustainability and Sustainability Education remain a challenge. It is a challenge to reason and imagination. It is a challenge to the dignity, the moral, and the “Quality of man (Peccei, 1976).

### **Concluding Table**

The concluding table for this chapter shows the 2020 and 2035 desired states of different variables, as well as their actual 2010 state.

Table 3.

<b>2010 – 2035 BASIC PROBLEMS/FORCES/FACTORS that would shape the Future and demand New Fields of Study &amp; New Sciences</b>	<b>2010 STATE OF FORCES</b>	<b>2020 STATE OF FORCES</b>	<b>2035 TARGETS New Necessary Sciences</b>	<b>2010 STATE OF 2035's TARGETS</b>	<b>2020 STATE OF 2035's TARGETS</b>
	++++	++++		++++	++++
Climate Change in Trentino	+	++	Ecopedagogy	—	++
The Transformation and the Re-Imagining of Local and Political Community	++	+++	Traditional Ecological Knowledge & Commons	++	+++
Transformation or Decay of the “New Economy” and Beginning of “Green Economy”	++	+++	Green Economy & Green Jobs	+	++
Natural Resources Depletion. More and more Extreme Pollution, Greediness, Conflicts and Health Problems	—	++	Eco-Vocational Education	+	++
Global Need of Peace and discontinuation of any Wars	++	+++	Peace and Human Security Studies	—	+
Urgent Need to save the Nature and the Planet	+	+++	Models of Participatory & Direct Earth Democracy	+	++
The prospect for Trentino to become an international leader and Avatar of Sustainability, Sustainability Education and “Green jobs”	+	++	Futures Studies in Sustainability	++	+++
We Ourselves – a Realized Force for more Ecological, more Just and Happier Future	—	++	Educators organizing Sustainability education, its agenda and activities.	+	++

## Chapter 4:

### Constructing Sustainable Curriculum for Tomorrow!

#### *2015 – “Introductory Course into Sustainability Politics. The Culture and Economy of Sustainable Future”.*

##### *Introduction*

This chapter strives to make most concrete and applicable our efforts; it represents a real curriculum for a new discipline. Chapter 1, 2 and 3 of this study were concentrated on the construction of a long-term sustainability vision for educational system in the Autonomous Province of Trento. Chapter 1 offered a vision for 2035, Chapter 2 mapped the present structure of education in Trentino and underlined the gap between it and the desired Sustainability variant of Education. Chapter 3 tried to bridge this gap.

Now, we arrived at the final chapter 4 that addresses the most concrete problem: What should be done **Now** in order to put the bases of Sustainability Education in Trentino. What is offered is to concentrate the efforts for 2015 on creating just a new discipline that could open qualitatively and spiritually new horizons. It is appropriate to name it – *“Introductory Course into Sustainability Politics. The Culture and Economy of Sustainable Future”.*

#### **1. “Introductory Course into Sustainability Politics. The Culture and Economy of Sustainable Future” for around 2015.**

The introductory course in “Sustainability Politics. The Culture and Economy of Sustainable Future” is aimed at acquainting students with the problematics and politics of Sustainability and enabling them to organize sustainable models of life, development and future in and beyond their society, as well as to initiate different sustainability policies. The course can be offered as an interdisciplinary course in fields of Economy, Education Sciences, Sociology, Political Science, Philosophy, History.

The design of the course is *participatory* and *empowering*. The Course is divided in 7 comprehensive topics/lectures each of which includes some hours of **Laboratory Activities** and **Outdoor Education** which both represent a process of **Experiential Sustainability Learning**.

Laboratory activities and outdoor education practices make the course even more participatory and empowering and include:

- Visitation of relevant institutions and places that can represent a source of learning and inspiration.
- Creative work and experimentation over students’ own ideas and projects
- Interaction with different Governmental and Non Governmental Organizations, organizing workshops and seminars with international scientists.

The course finishes as a “*project-based course*” since its ultimate aim is to empower students to become a force that could influence consciously and democratically the development of society as initiate different sustainability projects and policies. The course can be offered and realized also at different public institutions as its aim remains to re-educate students, public officials, elites and communities towards realizing Sustainability and Livable social future.

### **Lecture 1: Basic introduction to the History, the Concept and Politics of Sustainability.**

(4 h. Lectures + 2 h. Outdoor Education) 6 hours.

- From the 70s and the “Limits of Growth” to the New Millennium and the Globalization of Consumer Society.
- Why the Sustainability paradigm of the 70s did not succeed?

Lecture 1 examines the history of the modern ideas, concepts and politics of Sustainability. Started in the 60s with the voices of humanizing figures of world importance such as Rachel Carson, the paradigm of sustainability was more shaped in the 70s and 80s when the Club of Rome became a leading center of conceptions and theories for a sustainable world, future and development. In 1987, the World Commission on Environment and Development (WCED), known as the Brundtland Commission highlighted internationally and in this sense “institutionalized” the concept of “sustainable development” in its report “Our Common Future”. The future of Sustainability politics after the 90s was marked by the collapse of the Soviet Union and by the new concept and politics of “New World Order” initiated by George H. W. Bush which put the beginning of Globalization in all its dimensions. The politics of Sustainability in the first decade of the New Millennium was shaped by the world politics of neoliberal globalization which ultimately resulted in the creation of Global Consumer Society theorized also as a World Risk Society (Beck, U).

#### Readings:

WCED, 1987. Our Common Future <http://www.un-documents.net/ocf-02.htm>

UNESCO website - ESD *or* (2009) Review of Contexts and Structures for Education for Sustainable Development, UNESCO

Baylis & Smith. 2008. The Globalization of World Politics: An Introduction to International Relations. Oxford University Press. (Fourth Edition) (Chapters: 1, 20, 28)

Meadows, Randers, Meadows. 2004. Limits to Growth. The Thirty Year Update. – Update of the rapport The Limits of Growth, commissioned by the Club of Rome in 1974.

Beck, U. 2008. World at Risk. Cambridge: Polity Press

Carson, R. 2002. Silent Spring. Mariner Books, 2002

### **Lecture 2: Sustainability – an Ecopedagogical Shift in Education and Socialization.**

(4 h. Lectures + 2 h. Outdoor Education + 2h. Laboratory Activities) 8 hours

- Ecopedagogy – towards a new pedagogy and new architecture of Civilization.

- Ecopedagogy – Educating for Another Possible World in times of World Risk Society and Planetary Crisis.
- Ecopedagogical Socialization and Ecopedagogy of Childhood. From Media-imprisoned child to Commercially-free, Creative and Natural Childhood.

Lecture 2 will analyze sustainability as an Ecopedagogical shift in Education, Socialization and Life. It is concentrated on Ecopedagogy that can be successfully defined as (1) Model and Project for a new Sustainable Civilization and (2) Educating for Another Possible World. We will explore the deep conception and philosophy of Ecopedagogy, its theorists and movements. The purpose of ecopedagogy today is to become a global project for a new sustainable civilization, which in the words of Richard Kahn could be based on “planetary peace, happiness, justice and beauty that would be manifested by sustainable socio-economical and cultural relations between the peoples of the Earth.

Readings:

- Kahn, R. (2010) Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement. Peter Lang Publishing, Inc., New York
- Kahn, R. (forthcoming) Ecopedagogy: Educating for Sustainability in Schools and Society. Routledge
- Gadotti, M. 2007. Educar para um Outro Mundo Possível. (To Educate for Another Possible World). São Paulo: Publisher Brasil.
- Freire, P. 2000a. Cultural Action for Freedom. Harvard Educational Review. Harvard education Press
- Freire, P. 1998a. Pedagogy of Freedom: Ethics, Democracy, and Civic Courage Lanham, MD: Rowman & Littlefield
- Worldwatch Institute, 2010. State of the World 2010. Transforming Cultures: From Consumerism to Sustainability. The Worldwatch Institute

**Lecture 3: Sustainability – the “Deep Economy” Shift.**

(4 h. Lectures + 4 h. Outdoor Education + 2h. Laboratory Activities) 10 hours

- Sustainable Economy – The Deep Economy: Wealth of Communities and Durable Future.
- Green Economy
- Green jobs
- Economy of Commons and Traditional Ecological Knowledge.

As United Nations Environmental Program has underlined in 2008, “in just two or three decades, the entire global economy will need to be well on the road to a low-carbon and sustainable future”. Lecture 3 will present the basic works and developments in the field of

Green economy and Green jobs. We will scrutinize the paradigm of one future Sustainable economy, often seen as a “fundamental chance to change the trajectory of human civilization” (UNEP) and as “a historic and revolutionary social struggle for a new livable future” (Jones, 2009). Current development and advance of green economy and green jobs will be analyzed at local, regional and global level.

Locally and globally relevant models of sustainable economy based on Commons and TEK which have a long tradition in Trentino will be emphasized.

Readings:

McKibben, B. 2008. Deep Economy. The Wealth of Communities and the Durable Future. New York, N.Y. : Times Books.

UNEP. 2008. Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World

UNEP. 2009. Global Green New Deal Policy Brief

Jones, V (2009) The Green Collar Economy. How one solution can fix our two biggest problems. Harper Collins Publishers

Inglis, J. (ed). 1993. Traditional Ecological Knowledge. Concepts and Cases. (available online at: The International Development Research Center. Science for Humanity [http://www.idrc.ca/en/ev-9321-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-9321-201-1-DO_TOPIC.html) )

Hazard Magazine, accessible online at: <http://www.hazards.org/greenjobs/>

**Lecture 4. Sustainability – Socio-Political Shift.**

(3 h. Lectures + 3 h. Outdoor Education + 2h. Laboratory Activities) 8 hours

- Sustainability – a concept of Participatory Democracy and Active Citizenships.
- Participatory Political System – Local Prospects
- Transnational Referenda for Earth democracy, Sustainability and Peace

The availability of a sustainable political and social system was underlined by the Brundtland Commission as the fundamental precondition for Sustainable Development. This 4<sup>th</sup> lecture will underline the political dimension of Sustainability. The realization of sustainability as a conception today needs the availability of different models and mechanisms of Participatory Democracy and Active Citizenship. The concepts of “Earth democracy” and “Cosmopolitan democracy” which both would include innovative democratic mechanisms as “Transnational and Planetary Referenda” will be analyzed.

Special time will be dedicated to acquainting students with the local political system and the mechanisms which would permit people to democratically and actively participate and initiate different sustainability policies on environment, education, economy, media etc.

Readings:

Rousseau, J, Jacques. The Social Contract or Principles of Political Right. available online at: <http://www.online-literature.com/rousseau/social-contract-or-principles-/2/>

- Held, D. 2006. Models of Democracy. Polity, Cambridge
- Shiva, V. 2006. Earth Democracy: Justice, Sustainability and Peace. Boston: South End Press.
- Kellner, D. 1999. Globalization from Bellow? Towards a Radical Democratic Technopolitics. Rutledge.
- Marcuse, H. (1968) One-Dimensional Man: studies in ideology of advanced industrial society. (Beacon Press Boston).

### **Lecture 5. Sustainability – New Politics of Media, Technology and Nature ?**

(4 h. Lectures + 2 h. Outdoor Education + 2h. Laboratory Activities) 8 hours

- Sustainability Media Politics – Beyond the politics of Media Spectacle. Towards Critical Media Literacy and Sustainability Participatory Media
- Sustainability – Ecopedagogy of Technics. Democratic and Eco Technologies versus the politics of Destructive Technology and Technocracy
- Sustainability – choosing between Nature and Mega-technology? Liberating and Preserving the world of Nature.
- Ecopedagogy of Life and City's transformation. The Organic City and Natural Life – the relevancy of Lewis Mumford.

As the Massmedia doubtlessly became creator and constructor of the reality of the global world, Media politics and Critical Media literacy became especially important, key fields of study. The organization of Sustainable development, life and society depends fundamentally on the Media politics which as emphasized by the Worldwatch Institute (2010), is unfortunately and currently organized to produce and maintain very irresponsible and unsustainable behavioral models that elevate consumer consciousness and lifestyle as a supreme value in life. So, on one part this lecture will aim to profoundly present the field of Critical Media Literacy as a way to move forward towards Sustainability media. On the other part, the lecture will be concentrated on the politics of Nature and Technology which has direct impact on Sustainability. Time will be devoted to group works aimed at creating sustainable media models as well as conceptions and models of sustainable technologies.

#### Readings:

- Best, S & Kellner, D. 2001. The Postmodern Adventure: Science, Technology and Cultural Studies at the Third Millenium. N.Y. Guilford Press
- Kellner, D & Hammer, R (eds.) 2009. Media/Cultural Studies: Critical Approaches. N.Y. Peter Lang
- Kellner, D & Share, J. 2007. Critical Media Literacy, Democracy, and the Reconstruction of Education.,online at: UCLA CENTERX, University of California Los Angelis.  
<http://centerx.gseis.ucla.edu/>

Hughes, T. 2006. Il mondo a misura d'uomo: ripensare tecnologia e cultura . Torino:Codice (in original: Human-built World. How to think about Technology and Culture).  
Mumford, L. 1964. Authoritarian and Democratic Technics. Technology and Culture, Vol.5, No1  
Mumford, L. 1939. The City. A Film  
Mumford, L. 1963. Lewis Mumford on the City, Part 2: The City - Cars or People? A Film.

### **Lecture 6. Globalizing Sustainability – Sustainability Organizations, Networks and Projects.**

(2 h. Lectures + 4 h. Outdoor Education + 2h. Laboratory Activities) 8 hours

- Getting in touch with various Sustainability organizations and initiating locally and globally relevant sustainability projects or taking part in the realization already existing ones.

This Lecture will concern the concrete possibility of realizing and diffusing, globalizing Sustainability. It will introduce students to wide range of Governmental and Non Governmental Sustainability Organizations, Networks and projects. We will get in touch with many of them, and in such a way students will be able to present and realize their own ideas and projects that could be locally relevant but also of global significance. In this sense this participatory interactive part of the course is very important and could open to students a possibility to start work and enter practically in the field of sustainability.

### **Lecture 7. Concluding remarks, Proposals and Free activity.**

(Outdoor Education + Laboratory Activities + **Class Party**) One day.

## Afterword

Everybody of us lives in his/her everyday world – in the dimensions of his/her job, everyday transport, everyday troubles, everyday media spectacle of the news and so on. We could see now ourselves as real humans – as creators and as transmitters of values, love and life, or contrary, as spiritually oppressed beings without reason, lacking voice, and robbed of the impulse to participate in the determination of our own human and social situation.

It is already 2011. The world has become a part of human history! The future is becoming a more and more open process with an unknown end. Day after day, the world we know is becoming a different planet. *Concrete jungle* of artificial, anti-natural spaces, Shopping Malls, machines and hi-tech gadgets; a jungle in which natural human feelings are replaced by *imagined feelings* and life of commercial hallucinations. Life in Natural spaces is being replaced by life in *Net ghettos* and virtual realities, in which culture, as Douglas Kellner writes, many people have mental health problems as usual and many people are so alienated that they just want to be something...

What I have offered in this futures study is to take seriously ourselves and to take seriously education, and so to try to realize a more sustainable, beautiful and humane vision of future, which is in fact, up to everybody of us. This task remains a moral challenge, it is a challenge to reason, imagination and body, to dignity, and as Aurelio Peccei wrote, to ‘the quality of man’.

It is important now for others in the world of Academy and in the world of Politics, to take up this task, and till they have their opportunity to give their contribution as human beings for the creation of a more sustainable and livable future, full of Nature, Love and Sense.

Action, Love and Human miracles is where the spirit and the realization of Sustainability lies.

## Conclusion

Designed as a futures study in education, and addressing the period 2035-2010, the purpose of this research was to become a major work which to help policy-makers, educators, students and scientists seriously consider and imagine a deep and sustainable re-construction of education and educational systems.

The challenges of global climate change, natural resources depletion, immigration, wars and the current highly unsustainable model of global economy were analyzed as basic forces that would trigger and shape such a future transformation of education, of its values, its methods, and its objectives.

With this research, we have proposed a long-term sustainability vision for the system of education in the Autonomous Province of Trento, after analyzing the already existing architecture and programs of pro-sustainability education in Trentino. The vision is based on the introduction and development of new approaches, methods, programmes and sciences for an education that could promote sustainable and beautiful society and future. The creation of a new “Faculty of Sustainable Development”, a new “Undergraduate and Graduate Programme in Ecopedagogy, Sustainability and Future for All”, and a new introductory course into

“Sustainability Politics” was examined, respectively for the years 2035, 2020, and 2015. New innovative sustainability concepts were introduced.

The essential aim of the research remains to contribute to the creation of a more sustainable, innovative and humane educational system in and beyond Trentino.

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