

GLOBAL
SCHOOLS

POLITICHE LOCALI
PER SCUOLE GLOBALI

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*Educating young people for
sustainable development
How to evaluate a school
path: the REDDSO project*

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THE REDDSO PROJECT

The **REDDSO** project "**Regions for sustainable development and international solidarity**"¹ (in the framework of EU Aid) established - by **an alliance among regional Institutions, NGOs and Universities** - a learning environment that encouraged school paths based on education for sustainable development and international solidarity, funding the best proposals

In REDDSO, the problem of **the evaluation of a path of education for sustainable development** has been addressed with particular attention

¹ Rhône-Alpes, Piemonte, Catalunya and Malopolska



ALLIANCE AMONG THE PLAYERS FOR BUILDING EVALUATION TOOLS

In Piedmont:

University of Turin / Department of Philosophy and Educational Sciences;
the **Regione Piemonte, Foreign Affairs Office**;
the **COP**- Consortium of NGOs based in the Piedmont Region, Italy
have structured:

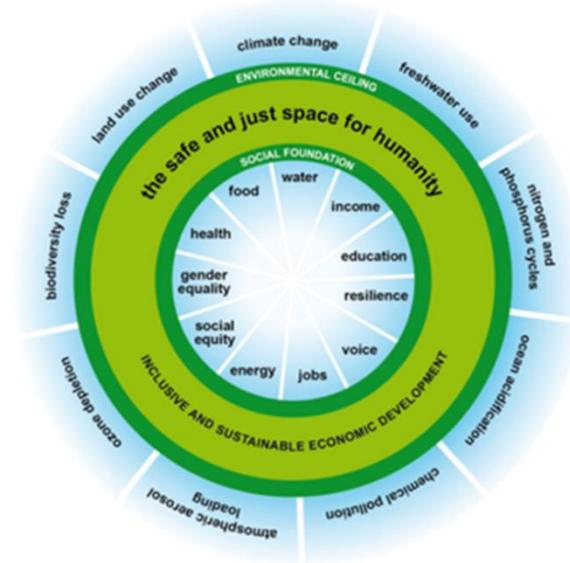
- a) a **"form" for the selection of projects eligible for funding** which assessed
 - consistency of the proposed path with the stated objectives
 - resources provided by the school in relation to the planned work
 - the complexity of the network of players (more than a school, NGOs, local institution ...)

- b) a **"form" for the final report** of the activities to be completed by the school, which also includes:
 - evaluation of results achieved by students (and other actors, if planned)
 - the effectiveness of activities
 - the presence of recognized innovative elements
 - the points of strength and weakness identified along the "walk"

Two PhD candidates in Educational Sciences prepared **specific tools to evaluate school paths** focused on education for «sustainable development and international solidarity».

SUSTAINABLE DEVELOPMENT IN 2015

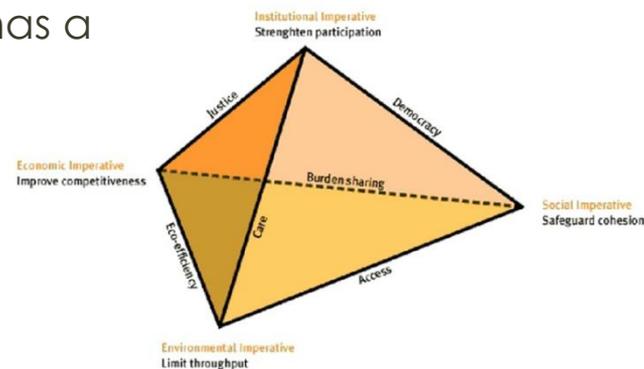
- Gradually related to Ethics and governance, «sustainable development» now explicitly includes the perspective that has as its foundation the **eradication of poverty** and the **stability of ecosystems that sustain life on Earth**, carried out by an **appropriate balance** among environmental, economic, social and institutional dimensions
- To achieve it, education has a vital role



K. Raworth, 2012



D. Griggs et al., 2013

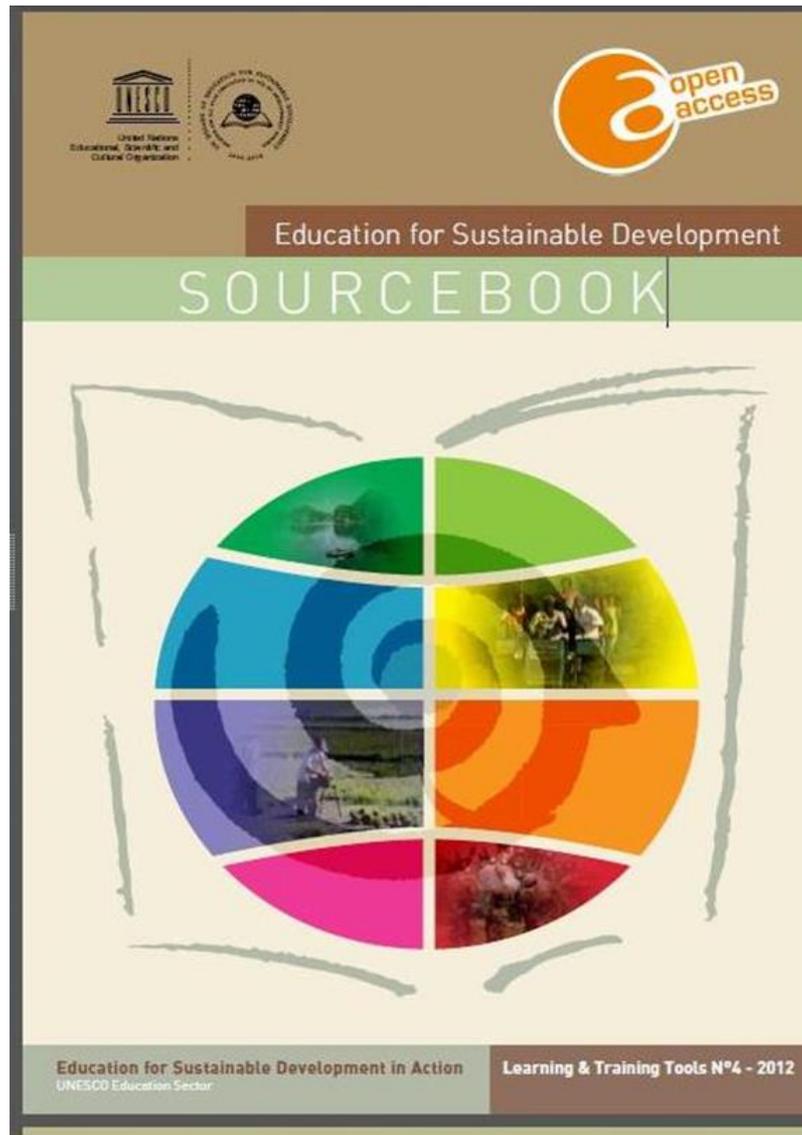


A. Valentin, J. Spangenberg, 2000

Education for Sustainable Development

- UNESCO Education Sector published a «sourcebook» (open access) we can consider «basic» to orientate teachers and experts on the theme of «sustainable development»
- We will use it in today's work because it is available to all, easily downloadable from the Web and actually provides a comprehensive overview on the issues that affect sustainability in a form suitable for educators

UNESCO, «Education for Sustainable Development. Sourcebook», 2012



Principles of Sustainable Development

The **Rio Declaration** contains 28 principles of Sustainable Development including:

- People are entitled to a healthy and productive life in **harmony with Nature**
- **Eradicating poverty and reducing disparities in living standards is essential**
- **Warfare is inherently destructive to Sustainable Development**

UNESCO, «Education for Sustainable Development. Sourcebook», 2012

Perspectives on Sustainable Development

Perspectives on sustainability are commonly statements that expand upon the principles of sustainable development found in **Agenda 21**. Principles include, but are not limited to, these perspectives:

- **Environmental protection and human-centred development are considered together, not separately**
- **There must be a balance and integration of environment, society, and economy**
- States have a right to development, but must respect geographic boundaries
- **Partnerships can achieve more than solitary action**
- **Social and environmental problems change through time and have both a history and a future**
- **Contemporary global environmental issues are linked and interrelated**
- **Systems thinking or a «whole-system approach» should be used in problem solving rather than looking at problems in isolation**
- Humans have universal attributes.
- The family is the foundational social unit.
- **Local issues must be understood in a global context and we should realize that solutions to local problems can have global consequences**
- UNESCO, «Education for Sustainable Development. Sourcebook», 2012

Perspectives on Sustainable Development

- Individual consumer decisions and other actions affect and give rise to resource extraction and manufacturing in distant places
- Differing views should be considered before reaching a decision or judgement
- Economical values, religious values, and societal values compete for importance as people with different interests and backgrounds interact
- Technology and science alone cannot solve all of our problems
- Individuals are global citizens in addition to being citizens of the local community.
- Communities are built for all people regardless of income, ethnicity, status, etc.
- **Community and governmental decision-making must include public participation.** People whose lives will be affected by decisions must be involved in the process leading to the decisions.
- Transparency and accountability in governmental decision-making are essential.
- The decentralization of governmental decision-making allows people to find solutions that fit local environmental, social, and economic contexts.
- Employing the precautionary principle – taking action to avoid the possibility of serious or irreversible environmental or social harm, especially when scientific knowledge is incomplete or inconclusive – is necessary for the long-term well-being of a community and our planet.

Values in Sustainable Development

Understanding values (e.g. one's own values, the values of the society one lives in, and the values of others around the world) is an essential part of understanding one's own and other people's viewpoints. Values from the **Earth Charter** include:

- **Respect for the Earth and life in all its diversity**
- **Care for the community of life** with understanding, compassion, and love
- Build democratic societies that are **just, participatory, sustainable, and peaceful**
- **Secure the Earth's bounty and beauty for present and future generations**
- **Eradicate poverty as an ethical, social, and environmental imperative**
- Affirm gender equality and equity
- Uphold the right of all, without discrimination.
- **Treat all living beings with respect and consideration**
- Promote a culture of tolerance, nonviolence, and peace.

ESD PEDAGOGIES

Pedagogies associated with ESD stimulate pupils

- To **ask questions**
- To **analyse**
- to **think critically** and **make decisions**

Such pedagogies move

- from teacher-centred to student - centred lessons and
- from rote memorization to participatory learning

ESD pedagogies are often

- **place-based or**
- **problem/issue based**

ESD PEDAGOGIES

ESD pedagogies encourage

- **critical thinking, social critique**, and
- **analyses of local contexts**

ESD pedagogies involve

- discussion, analysis and application of **values**

ESD pedagogies

- often draw upon **the arts** using drama, play, music, design,
- and drawing to stimulate **creativity** and imagine **alternative futures**
- They work towards positive change and help pupils to develop a sense of **social justice** and **self-efficacy as community members**

So we have to take into account these aspects when we prepare tools to evaluate our school path

ALTERNATIVE PEDAGOGIES FOR ESD

Just a short reminder about «alternative pedagogies» that can be used in school activities:

- Wild Pedagogies (Jickling, 2014)
- Sustainable Education (Sterling, 2006)
- The «whole school approach» (L.G. Hargreaves, 2008)
- ...et cetera



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 WORLD ENVIRONMENTAL EDUCATION CONGRESS
8TH WEEC Planet and People
 - how can they develop together?



Key points

- "We" need to get better in designing and investigating learning contexts & spaces that enable people – young and old – to develop embedded (un)sustainable abilities and associated capacities/qualities
- Blurring the boundaries between institutional, community-based and workplace learning is essential and inevitable (hybrid learning in vital coalitions)
- Critical thinking (e.g. questioning taken-for-granted values, behaviours and systems), diversity and participation, and disrupting unsustainable systems/routines is critical
- The normative dimension (values, ethics) of environmental and sustainability education needs to be strengthened if a transition perspective is to be taken seriously

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 www.weec2015.org

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HOW TO WORK, HOW TO EVALUATE

You can:

- **Choose a case-study**, looking for perspectives of sustainable development or values in it
- Choose **some of perspectives** (or its opposite) and work on them (for example using advertisement, newspapers...)
- Choose **some of values** and work on them
- Make a **simulation**
- Choose an **interdisciplinary approach** to discuss on **a recent event in the world**
- Focus your activities on **«nexus» Water-Energy- Food WEF**
- Talk about **the Future we want**
- Ask students **to be artist**
- ...et cetera

In any case, you have to evaluate your path

M. Bussey, et al., "Alternative educational futures: pedagogies for emergent worlds", Sense Publishers, 2008

H. Lotz-Sisitka, B. Jickling, "Environmental Education, Ethics and Action: Making Ethics an Everyday Activity", 8th WEEC, 2015

UNESCO, "Education for Sustainable Development. Sourcebook", 2012

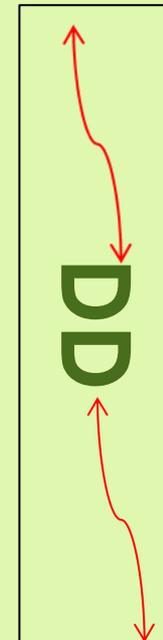
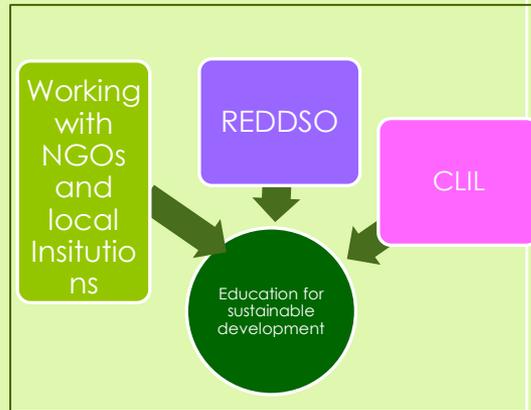
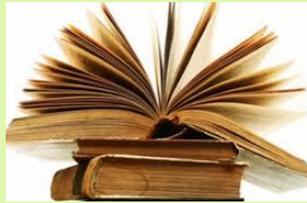
A. Wals, opening session, 8th WEEC, 2015

SD PRESENTED AS A SUBJECT

SD AS A THEME FOR ARTISTIC PRODUCTS THAT SERVE TO RAISE AWARENESS

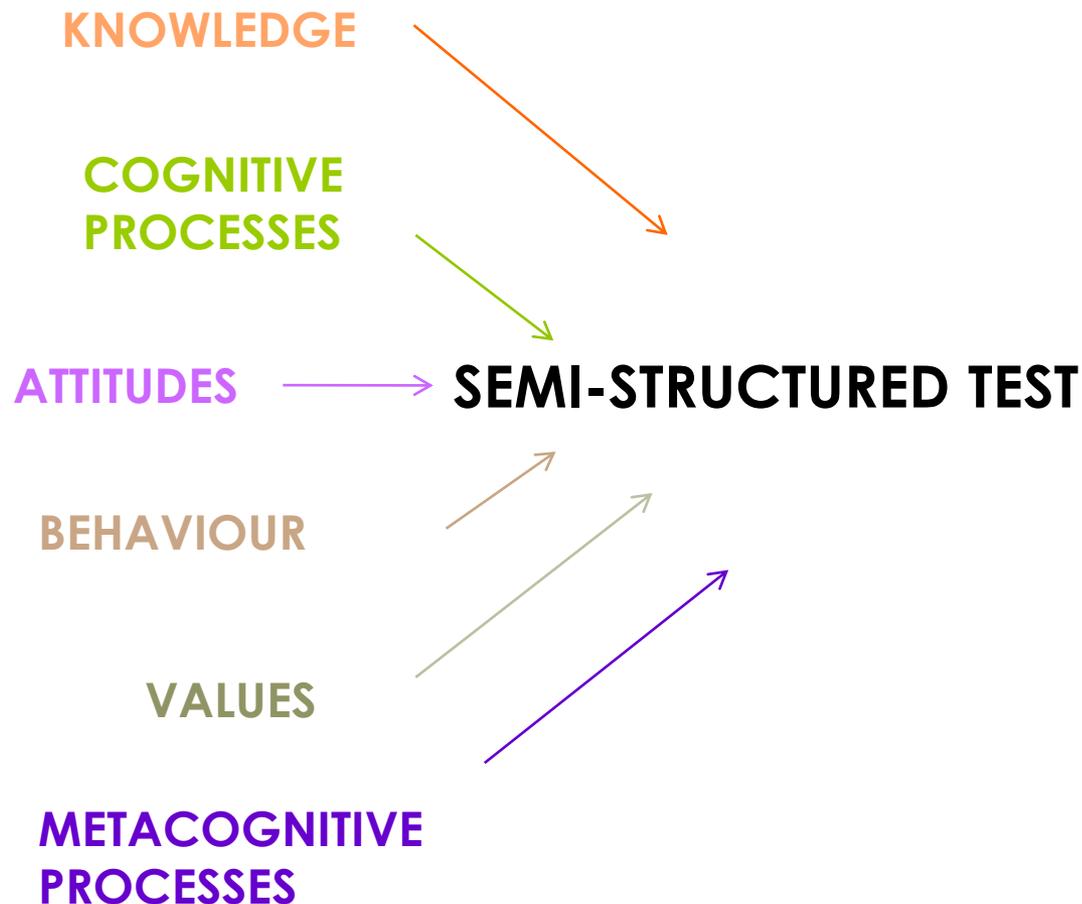
ADDRESSING SD THROUGH DIFFERENT WAYS AND METHODOLOGIES

SD AS FIL ROUGE BINDING ALL TOPICS



HOW SCHOOLS APPROACH SD IN THEIR PROJECTS

TOOLS TO EVALUATE



Genuine problems

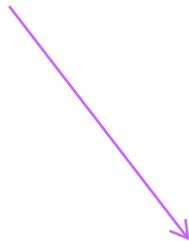
Personal reactions to assertions (Likert Scale)

Personal choices in a contextualized situation

Questions proposed in order to know “when” and “how” students use particular strategies for learning or for addressing problems

TOOLS TO EVALUATE

BEHAVIOUR



**CLASS DISCUSSION
or
SEMI-STRUCTURED
INTERVIEWS**

VALUES



Genuine problems
particularly
focused on
Developing
Countries
(workshops with
NGOs)

The student's daily
behaviour
outside school

The signs of
ongoing changes
in the class group

TOOLS TO EVALUATE

PARTICIPATION



**ACTIONS IN THE
COMMUNITY**



VALUES



**Advocacy for
sustainability
amongst
schoolmates**

**Advocacy for
sustainability in
families**

**Personal
participation in
natural resource
management,
including not
only local
actions but also
in the context of
international
cooperation**

TOOLS TO EVALUATE

EMOTIONAL
ATTITUDES



NON-
TRADITIONAL/
ARTISTIC
PRODUCTS

VALUES



Drawings

Crafts

Photos

Poems

Flash mob

TOOLS TO EVALUATE

STRUCTURED
AND SEMI-
STRUCTURED
TESTS

INTERVIEWS

NON TRADITIONAL
PRODUCTS/POEMS

DISCUSSIONS

ACTIONS

COMPETENCIES

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graph TD; A[STRUCTURED AND SEMI-STRUCTURED TESTS] --> F[COMPETENCIES]; B[INTERVIEWS] --> F; C[DISCUSSIONS] --> F; D[NON TRADITIONAL PRODUCTS/POEMS] --> F; E[ACTIONS] --> F;
```

A FEW WORDS OF CLARIFICATION. Starting from «cognitive processes»...

To describe the cognitive processes we took our inspiration among the many proposals in literature, from the famous model of **J.P. Guilford** (1967), edited by **Anderson and Krathwohl** (2001) and therefore taking account of:

- **knowledge** and following mental understanding **comprehension** (that is to say "recognition of information and its interpretation")
- **storage**: ability to remember
- **convergent thinking** / the reasoning: the ability to make inferences or deductions from the information provided
- **creativity**: the ability to "diverge", characterized by fluidity, flexibility and original formulation
- **critical thinking**: the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (M. Scriven & R. Paul, presented at the 8th Annual International Conference on Critical Thinking and Education Reform, Summer 1987)

...continuing with COMPETENCIES...

- The concept of "competence", that refers to the mobilization of cognitive resources to perform an action (Le Boterf, 2008), leaves many open questions
- Concerning the evaluation of competencies, problems start with the fact that many times we follow the students when they work on a task in which **they "speak" about an action, but they often are not really "active"**
- In addition, it should be noted that we always refer to **the dimension of prediction**, as at school one tries to identify the position following a training program that, given the complexity of the subject, is actually permanent
- However, we can use the definition of Pellerrey that also considers the knowledge and skills as signals of competence, because there is no reason that those who have them can't actually use them when "in situation"

COMPETENCIES: CHOOSE THEM TO EVALUATE

- **To see systemically**
UNESCO, 2012; S. Sterling, 2013; C. Coggi, P. Ricchiardi, 2014
- **To foresee**
E. Frisk, K. L. Larson, 2011; UNESCO, 2012
- **To be flexible**
UNESCO, 2012; S. Sterling, 2013; C. Coggi, P. Ricchiardi, 2014
- **To act in a "sustainable way"**
UNESCO, 2012; S. Sterling, 2013

COMPETENCIES: RUBRIC FOR DATA COLLECTION

To see systemically (understanding connections)

- a) the student shows the ability **to understand a system**, detected when he recognizes the elements and their interconnections and, in this case, those which determine the relationships among economic development, environmental protection, social justice and equity, given the "physical" and "social" limits beyond which we can't push human action
- b) the student shows the ability **to reason about a system** shown when he identifies **the impacts** that arise if the **networks of relationships** established among its elements are disturbed
- c) the student shows **creativity**, recognized when he takes **different points of view** due to **the four dimensions that characterize sustainability** (environment, society, economy and Institutions) and shows originality and ideational fluency in seeking solutions for complex problems

E. Zimmerman, 2004

G. Strachan, 2009

C. Coggi, P. Ricchiardi, 2014

COMPETENCIES: RUBRIC FOR DATA COLLECTION (2)

To foresee (forecasting human actions in the future)

The student shows the ability to think about **long-term trends** and **future scenarios** that could happen in the world, highlighted when he is able to move independently between **spatial perspectives** ("local" and "global") and **temporal perspectives** (from the past, back to the causes of these phenomena; starting from present choices to see the future consequences)

E. Frisk , K.L. Larson, 2011

C. Coggi, P. Ricchiardi, 2014

COMPETENCIES: RUBRIC FOR DATA COLLECTION (3)

To be flexible

- a) The student shows **flexibility in thinking**, detected when he **recognizes stereotypes and prejudice**, seeks information to understand and **assess** the reliability of sources
- b) the student shows willingness to work constructively with "others", through **the acceptance of the confrontation** with the ideas of "pairs" and adults and the possible **restructuring of his ideas** on issues concerning "sustainability"

COMPETENCIES: RUBRIC FOR DATA COLLECTION (4)

To act in a "sustainable" way (connecting to place, making the difference)

- a) the student shows **the acquisition of values** underpinning sustainable development, revealed by his **respect** for the environment and the ensuing responsibility
- b) the student shows a sense of **belonging to a community** ("Others have my same rights"), which is based on the values of solidarity with other citizens of the world; he gives **"value" to the future**; he shows a sense of responsibility towards future generations (**intergenerational equity**)
- c) the student shows **a sense of community**, revealed when he wants to work to improve it with his friends and other citizens, in terms of sustainability and solidarity
- d) the student shows a link to the "school system" where he is a "student" who wants to strengthen and improve in terms of "sustainability"

COMPETENCIES: RUBRIC FOR DATA COLLECTION (5)

To act in a "sustainable" way (2)

e) the student shows the acquisition of "sustainable" behaviour revealed when **he acts effectively as an individual**; or when he is attuned to "others" in an effective way;

f) the student shows the acquisition of **metacognitive tools**, revealed by the ability to recognize what skills are required to take a decision and the ability to recognize his own resources, and reflect on the measures taken to improve them.

M. Mayer et al., 2008

C. Coggi, P. Ricchiardi, 2014

...to get to «values».
WHY INVESTIGATE VALUES?
(Unnecessary considerations)

- We know that to face the great challenges of the twenty-first century we should all engage in a great movement that leads to **new social policies and new social structures** (Holmes, 2012)
- Values such as **care for others** and **concern for the natural world** can create **a more caring society and a better world** (Holmes, 2012)
- The normative dimension in Education (values, Ethics) has been particularly highlighted and underlined as one of the means for transformative learning in vital coalisation for socio-ecological transition (A. Wals, opening plenary, 8th World Environmental Education Congress, 2015)

The school seems to be the most appropriate place to strengthen values (UNESCO, Decade of Sustainable Development)

INTRINSIC AND EXTRINSIC VALUES

In order to face the enormous «world of values» we choose the classification proposed by Tim Holmes and his group.

Extrinsic values are centered on external trust or rewards

Intrinsic values are focused on activities enriching in themselves.

intrinsic values (examples)

- Connecting with Nature
- Concern for «others»
- Social justice
- ... Et cetera

extrinsic values (examples)

- Wealth
- Material success
- Concern about his image
- Social status
- Social power
- ...Et cetera

DETECTING THE VALUES

- We must remember that **we are not there to judge** but to raise the level of student orientation towards different problems and values, in order to increase their ability to act
- However, if you want to evaluate - and not only “map” - the orientation towards “values”, you must prepare your questions very carefully. The lack of some indications - about some issues - can disorient students and falsify the result



FORCES AND WEAKNESSES

Unnecessary considerations

For those who think that this evaluation system is excessive, it should be noted that if the act of evaluation has been the Cinderella of the education process so far, this is due to:

- the habit of considering the number of issues addressed and not the quality of the trail as a synonym for effectiveness
- data analysis can be difficult for players who do not possess the appropriate knowledge in statistics, but this obstacle can be overcome also by student participation in the work, or just by learning the proper techniques.

The benefits of good assessment procedures are known and are responsible not only **for the revision of an educational path**, but also **for the construction of significant metacognitive skills** in girls and boys, to make "conscious individuals" in the process of sustainable development.

It is not easy to agree on the assessment tools among different actors, although this act helps to weld the relationships just among those that are working on the same goal and lays the foundation for a community of practice, rather than to limit the exchange to an occasional performance even if repeated.

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Thank you!

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