Training Guideline on incorporating Education for Sustainable Development (ESD) into the curriculum

"Education plays a critical role in development"
"Learning for change – Learning to change"
"Learning to live together sustainably"
*(*Koïchiro Matsuura, UNESCO Director-General*)*

I/ Understanding ESD

1) ESD Definition

There is a general lack of agreement on how to define ESD, but the following provide a starting point from the perspective of various international agencies:

UNESCO: The vision of education for sustainable development is a world where everyone has the opportunity to benefit from quality education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation. ESD is a process of learning how to make decisions that consider the long-term futures of the economy, ecology, and the equitable development of all communities. The three pillars of sustainable development are economic, environment, and social.

The founding value of ESD is respect: respect for others, respect in the present and for future generations, respect for the planet and what it provides to us (resources, fauna and flora). More specifically, ESD is about learning to:

1. respect, value and preserve the achievements of the past;

2. appreciate the wonders and the peoples of the Earth;

3. live in a world where all people have sufficient food for a healthy and productive life;

4. assess, care for and restore the state of our Planet;

5. create and enjoy a better, safer, more just world;

6. be caring citizens who exercise their rights and responsibilities locally, nationally and globally

OECD: The objective of sustainable development is to reconcile economic efficiency with social cohesion and ecological balance in order not to put at risk the development of future generations. ESD aims to ensure that:

- people acquire skills for life, i.e. skills that permit them to live adequately in the knowledge society, this process of learning being continuous along the life span;

- economic development is a robust and long lasting one based on the development of human and social capital;

- social cohesion is protected by ensuring equity of education outcomes for all, that is developing educational systems that permit young people with social disadvantages or

learning difficulties to perform/participate in a world within which an increasing number of people are suffering from physical handicaps or disabilities.

2) ESD strategies/approaches
a) General strategies/approaches

Most current approaches focus on the environment while referring to broad sustainable development concepts and skills (e.g. critical thinking, citizenship) rather than to specific subject matter. However, different elements are emphasized in different regions:

- Asia-Pacific - knowledge systems, cultural context;

- Latin American and the Caribbean - literacy rates, biodiversity;

- the Arab States - desertification, sustainable consumption;

- Sub-Saharan Africa - poverty alleviation, partnerships; and

- Europe - the most advanced through the *Vilnius Strategy*[1] for ESD developed by the United Nations Economic Commission for Europe (UNECE) in 2005.

OECD: There are 4 dimensions to ESD:
1. Environmental awareness: the OECD initiated the Environment and School Initiatives (ENSI) in 1986. This programme supported educational developments that promote environmental awareness, active approaches to teaching and learning, and citizenship education, through research and the exchange of experiences internationally.

2. Competencies for the knowledge economy in a life span perspective: the OECD developed analysis to delineate the skills of knowledge workers and to specify the conditions to be met for lifelong learning for all to become a reality;

3. Human and social capital and economic growth: the OECD has studied the specific role both human and social capital can play in economic growth; and

4. Inclusive education: the OECD has intensively contributed to the development of an inclusive education by addressing the special education needs of students with organic disabilities, learning difficulties and social disadvantages.

The UN Agenda 21 identified four major thrusts to begin the work of ESD:
1. improve basic education,
2. reorient existing education to address sustainable development,

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[1] The aim of this Strategy is to encourage UNECE member States to develop and incorporate ESD into their formal education systems, in all relevant subjects, and in non-formal and informal education. This will equip people with knowledge of and skills in sustainable development, making them more competent and confident and increasing their opportunities for acting for a healthy and productive life in harmony with nature3 and with concern for social values, gender equity and cultural diversity.
The objectives of this Strategy, which will contribute to the achievement of the aim,
are to: (a) Ensure that policy, regulatory and operational frameworks support ESD;
(b) Promote SD through formal, non-formal and informal learning;
(c) Equip educators with the competence to include SD in their teaching;
(d) Ensure that adequate tools and materials for ESD are accessible;
(e) Promote research on and development of ESD;
(f) Strengthen cooperation on ESD at all levels within the UNECE region.

3. develop public understanding and awareness,
4. provide training for all sectors of society including business, industry, and government.

  b) Asia Pacific region strategy (UNESCO)

Every person in the Asia-Pacific region should learn how to acquire and adapt their knowledge and behaviour to contribute to change for a sustainable future and take responsibility for their actions in consideration of others. As such, the Mission of the Asia Pacific ESD Strategy is "to develop partnerships and synergies with a variety of partners through all forms of quality learning to empower individuals to make informed, appropriate decisions for our future.

3) Current situation on teacher education curricula vis-à-vis ESD (ESD-Net)**:**

- Progress in re-orienting programs towards ESD, especially in terms of curriculum content, but lacking in terms of modes of instruction and assessment;

- ESD is mostly taught in a cross-disciplinary way, in sciences as opposed to in the arts or humanities section;

- More research on ESD is necessary, in particular on indicators to assess ESD-challenges, ESD contributions, ESD skills, competences, values and goals; and

- Lack of communication with stakeholders in the community on ESD

4) Current repositioning of ESD (Bonn Declaration, 2009):

- Foster linkages between ESD and EFA within a coherent and systemic approach;

- Re-orient education and training systems (pre-service and in-service) to address sustainability concerns;

- Develop and strengthen existing international, regional and national enabling mechanisms and cooperation for ESD that respect cultural diversity;

- Support the incorporation of sustainable development issues using an integrated and systemic approach in formal education as well as in non-formal and informal education at all levels;

- Value and give due recognition to the important contribution of traditional, indigenous and local knowledge systems for ESD and value different cultural contributions in promoting ESD; and

- ESD should actively promote gender equality

II/ Perception of Curriculum: 'Glocal' and Competency-based

- The curriculum expresses and reflects a society's values, attitudes, expectations and feelings about its welfare and development. It is also a complex and evolving mixture of visions and interests of multiple institutions and stakeholders.

- Curricular construction is specific and unique in each national context, reflecting the diversity of approaches and proposals by multiple stakeholders, within the educational system and outside it, to meet society's expectations and needs.

- Educational reform worldwide is increasingly curriculum-centred, as growing demands for change tend to focus on both structures and contents of school curricula. The curriculum must integrate political and technical components into an educational proposal reflecting the type of society we hope to build and pursue.

- A global vision of curriculum should include learning outcomes to achieve (exit profiles), pedagogical and instructional strategies linked to teaching and learning, teaching materials for teachers and students, the discipline's contents, evaluation of learning outcomes and achievements, and curriculum management.

- Competency-based approaches may be understood as possible progressive ways to achieve an inclusive curriculum (address learners' diversities), integrating curricular logic (resources and activities to cope competently with different types of situations), learning logic (students developing competencies) and the logic of action in situations (applying competencies).

- A competency-based approach can be a valid alternative to the notion of a curriculum as a plan of studies, providing an innovative way of conceiving and organizing the curricular structure and objectives, discipline-contents, to develop people who are competent as autonomous, critical and assertive citizens.

- No international success models; but sound practices (evidenced-based) to share. The challenge lies in striking the delicate balance between global society and national ad local expectations and needs (the notion of a glo-local curriculum).

III/ Effectively incorporating ESD into the curricula

1) Guidelines for Teacher Education Institutions
a) General Steps

- Decide which themes to emphasize within their curriculums, syllabi, practices, and policies to ensure that teacher-education programs fit the environmental, social, and economic conditions and goals of their communities, regions, and nations.

- Ensure that educators and administrators understand the concept of sustainability and are familiar with its principles.
    - Distinguish between "education about sustainable development" (an awareness lesson or theoretical discussion) and "education for sustainable development" (use of education as a tool to achieve more sustainable futures).

- Use the following design criteria to evaluate ESD programmes (UNESCO):
    - ESD is locally relevant and culturally appropriate.
    - ESD is based on local needs, perceptions, and conditions, but recognizes fulfilling local needs often has global effects and consequences.

- ESD engages formal, non-formal, and informal education (settings and provisions).
- ESD is a life-long endeavour.
- ESD accommodates the evolving nature of the concept of sustainability.
- ESD addresses context, content, pedagogy, global issues, and local priorities.
- ESD deals with the well being of all three realms of sustainability – environment, society, and economy.
- ESD is not imported from another cultural, economic, or geographic region.
- ESD is not "one size fits all," but must be created to account for regional and local differences.

b) A competency-based approach to learning

Competencies are socio-historical constructions mainly developed through learning situations. Competency-based approaches constitute a key principle of curriculum organization encompassing foundations, objectives, structure, syllabi and the classroom practices. The result is that learners build their own knowledge and competencies through their own activities and experiences in context. Basic features of competency-based approaches are:
- Teaching contents are more than knowing and knowing-how
- The student is the main actor of the learning process
- The ability to use knowledge in context is valued

There are three logics of competencies[2]:
- Logic of action in context: an achieved competency
  - Adapt the teaching to the learner's situation
- Curricular logic: resources and activities to approach in a competent way types of situations
  - Multiplicity of contextualized, inter-disciplinary and relevant resources for the learner
- Learning logic: students develop competencies by themselves
  - The student plays an active role in learning

This approach relies on teachers are key mediators and regulators between all three aspects of a competency-based approach. Consequently, it is important to look at competency-based learning situations as a way to incorporate a cross-cutting ESD perspective in teacher education.

c) General Examples of ESD practice

- Requiring students to volunteer at a local social or environmental non-profit organization as a field experience in early teacher-education programs;

- Offering an intensive ESD workshop to pre-service teachers prior to graduation,

- Requiring all student teachers to have an environmental education experience regardless of their discipline or specialization; and

- Placing students in a socio-economic or cultural setting that differs from their own for part of their field experience

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[2] P. Jonnaert Ph.D., *Le concept de compétence revisité*, Observatoire des réformes en éducation (ORE), University of Québec, Montréal, September 2007. Original in French.

d) Country Practice: India (Advanced Studies in Education)

1) Organized a national workshop on ESD, to create awareness about sustainable development among faculty members.

2) Through other IASE workshops and meetings, faculty members identified broad course content for reorienting teacher education to address sustainable development. The broad areas identified included: concept of sustainable development, education for sustainable development, consumer education, population education, sustainable agriculture, environmental conservation, resource management, impact of technology on the environment, and women's education and sustainability.

3) These topics have been incorporated in some optional papers as well as in some teaching subjects of the Bachelor of Education (B.Ed.) degree. The following changes were incorporated at the B.Ed. level beginning with the 2002-2003 session.
    • IASE increased links with other universities and NGOs in Delhi and provided opportunities for deeper interaction with people involved in similar disciplines.
    • Objectives for institutionalizing of the revised curriculum were achieved on time.
    • IASE organized in-service programs for Delhi teachers on sustainable development.
    • Craft instructors started using handmade papers and reusing or recycling waste products.
    • Student teachers are undertaking projects based on environmental problems in their communities.

2) Guideline for Teachers
      a) Basic Prerequisites

• Acknowledge their key role as 'cornerstones' of effective ESD programmes (co-developers of the curricula);

• Understand the cross-cutting and multi-disciplinary nature of ESD;

• Avoid overloading the curriculum and to solely link ESD to one or two disciplines;

• Be open to diverse learning strategies to effectively implement ESD principles and contents at the school and classroom levels; and

• Appreciate the importance of multi-stakeholder partnerships – working together to overcome shared problems

      b) Incorporating ESD into the curriculum

1) Five components of an education reoriented to address sustainability (UNESCO):
      a. **knowledge** to understand the principles of sustainable development,
      b. **issues** that threaten the sustainability of the planet,
      c. **skills** that will enable people to continue learning after they leave school, to have a sustainable livelihood, and to live sustainable lives,
      d. **perspectives** to consider an issue from the view of different stakeholders,
      e. **values** to understand your own worldview and other people's viewpoints.

2) Curriculum mapping: look closely at your existing curricula syllabi and school activities to identify where themes and issues of ESD are already included

3) Next, identify potential areas of the existing curriculum in which to insert and develop examples that illustrate sustainability or additional knowledge, issues, perspective, skills, or values related to sustainability.

4) Build on local values, so they can permeate ESD curricula

5) Assess the attitudes of students on ESD issues

c) Implementing ESD in the classroom

1) Four different modes of teaching ESD (ESD-Net):
   a. Values-based learning, which through processes of self-reflection and critical inquiry, fosters critical thinking of one's values and the values of others;
   b. Learning to transform, which involved developing a vision for ESD and subsequent transformation of thinking for change;
   c. Whole-school approach in terms of ESD, which aims to develop an entire school culture committed to ESD as opposed to focusing on ESD simply within the curricula; and
   d. Community-based learning where schools act as a social agent, both working as part of the community and inviting the community to be involved as a resource and in decision-making processes.

2) Make ESD alive through textbooks illustrating real-life examples

3) Use ICT and web-learning resources

d) Best Practices

OECD: **ESD teaching framework for knowledge competencies –** it progresses from giving students a solid understanding of basic economic, environmental and social concepts (primary level), to explaining interdisciplinary concepts and the need for integrated approaches (secondary level), to studying the state-of-the-art in sustainable development governance, measurement, assessments and practices (tertiary level). The emphasis in this approach is on promoting interdisciplinary thinking and analysis, which is at the basis of sustainable development.

Baltic Countries: **Problem-based learning and the encouragement of critical thinking** – according to this method, finding solutions to problems is the way to approach learning processes. Gathering information, identifying problems, finding out who or what is responsible and what can be done to reverse or change negative developments are all part of such thinking. Firstly, the word problem denotes a set of questions around a situation or concept. Secondly real life situations are used as the starting point for learning. Thirdly the students themselves are responsible for their learning; it is self-directed. Group work is one of the key working methods.

UNESCO: **Evidence-based approach** – it includes engaging in wide consultations with multiple partners in developed and developing countries, emphasizing the global nature of ESD; operating in a cross-sectoral and inter-disciplinary manner, integrating contributions from all stakeholders; using a "bottom-up" approach incorporating field perspectives, experiences and challenges;

drawing on local, regional and global best practices based on documented research results and country experiences; and linking activities under the Decade with various other educational processes, including the Dakar Framework for Action on Education for All (EFA), the UN Literacy Decade (UNLD), and the Millennium Development Goals.

References:
- ESD-Net, *ESD-Net online discussions, ESD curriculum practices group*
- ESD-Net, *ESD-Net discussion on ESD curriculum practices: key points*
- OECD, *Education for Sustainable Development: Proposed Activity on Education and Social Aspects of Sustainable Development*, Paris, France, 3-4 October 2005
- OECD, *Workshop on Education for Sustainable Development*, Paris, France, 11-12 September 2008
- Opertti, Renato - IBE-UNESCO, "Inputs for research on ESD", *ESD-Net Training Workshop – Reorienting teacher education to infuse education for sustainable development through ICT,* Bangkok, Thailand, 21-24 August 2007
- Swedish National Commission for UNESCO, *Baltic Sea Project 15 Years – a Report on Best Practices for the UN Decade on Education for Sustainable Development*. Stockholm, 2005.
- UNECE, *UNECE Strategy for Education for Sustainable Development*, EP/AC.13/2005/3/Rev.1, Vilnius, Lithuania, 17-18 March 2005
- UNESCO, *Flash Info no 051: Director-General send message to World Conference on Education for Sustainable Development in Bonn,* April 2009
- UNESCO, *Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability*, Education for Sustainable Development in Action, Technical Paper No. 2, October 2005