

Responsible Education for Sustainable Development

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Abstract

An overview of the Education for sustainable development (ESD) history and importance, and contents of an ESD course are addressed. They will help teachers at all grades of education to select the topics, adopting it to the suitable level. The main documents of United Nations (UN) and its Educational, Scientific and Cultural Organisation (UNESCO) about sustainable development (SD) and ESD are presented. The 12 key issues of ESD are organized in 4 groups (approach, contents, teaching, and organization) with 3 items each: ESD scope, policy and cooperation; environmental, social, and economic pillars of sustainable development; ESD methodologies, transformative teaching and learning, building capacity; ESD and SD metrics, documents, and institutions. Key milestones of ESD, competencies and quality education, weak and strong sustainability are dealt with in some detail. ESD vision and mission are elaborated, and recent development of ESD in the social field is stressed. An overview of ESD most important documents is presented to enable readers' find further information. Responsible ESD has to include the most recent problems of SD: poverty, hunger, equality, peace, justice, human rights, decent jobs, health and well-being, responsible consumption and production, sustainable cities and communities, climate action, etc.

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Keywords: ESD, quality education, SDGs additional targets, new challenges.

Odgovorna vzgoja za trajnostni razvoj

Povzetek

Podan je pregled zgodovine in pomena ter predlagana vsebina predmeta izobraževanje za trajnostni razvoj (ITR). Pomagali naj bi učiteljem vseh stopenj izobraževanja pri izbiri vsebin, seveda prilagojenih posamezni stopnji. Prikazani so glavni dokumenti Združenih narodov in njegove Organizacije za izobraževanje, znanost in kulturo (UNESCO) o trajnostnem razvoju (TR) in ITR. 12 bistvenih sestavin je prikazanih v 4 skupinah (pristop, vsebina, poučevanje in organizacija), vsaka s po 3 enotami: namen, politika in sodelovanje v ITR; okoljski, družbeni in ekonomski steber TR; metodologija ITR, preoblikovalno poučevanje in učenje, razvoj kapacitet; merjenje, dokumenti in institucije TR in ITR. Glavni mejniki ITR, kompetence in kakovostno izobraževanje, šibek in močan TR so prikazani podrobneje. Obravnavana sta vizija in poslanstvo in poudarjen nedavni razvoj ITR na družbenem področju. Podan je pregled najvažnejših dokumentov ITR, ki omogoča bralcu nadaljnje informacije. Odgovorno ITR mora vključevati najnovejše probleme TR: revščino, lakoto, enakopravnost, mir, pravičnost, človekove pravice, spodobno zaposlitev, zdravje in blagostanje, odgovorno potrošnjo in proizvodnjo, trajnostna mesta in skupnosti, podnebno delovanje itd.



1 Introduction

Sustainable Development (SD) was released by the United Nations (UN) World Commission on Environment and Development (WCED) in report *Our Common Future*, most often called Brundtland Report according to its chairlady Gro Harlem Brundtland, former prime minister of Norway. It was officially introduced at the UN General Assembly in 1987. SD was defined as the development that »meets the needs of the present without compromising the ability of future generations to meet their needs”. Today, it is described as the organizing principle of human development that fulfils long term needs of humanity and at the same time sustains the “ability of natural systems to provide natural resources and ecosystem services upon which society and economy depends”. UN Conference on Environment & Development in Rio de Janeiro (UNCED, 1992) called for global partnership in SD. In chapter 36 of the Agenda 21 they proclaimed that “education has to be reoriented towards SD”.

Education *for* Sustainable Development (ESD) followed the UN International Environmental Education Programme (1975–1995) which had presented a vision and mobilized education for environmental awareness. ESD “allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future” (Leicht et al., 2018). It is “including key SD issues into teaching and learning – e.g. climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption”. In 2002 UN General Assembly decided to initiate the 2005–2014 Decade for ESD led by UNESCO (2014). It focused its efforts to four main areas:

1. Looking at education as a critical implementation tool for SD;
2. Reorienting education systems towards commitments of Millennium Development Goals (MDGs) and Education for All (EFA);
3. Networking and interaction among stakeholders in ESD;
4. Developing approaches for the assessment of progress in ESD.

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The Global Action Programme (GAP) on ESD is the follow-up programme to the Decade of ESD. The GAP aims to contribute substantially to the 2030 agenda through two objectives:

- “Reorienting education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower him/her to contribute to a sustainable future.
- Strengthening education and learning in all agendas, programmes and activities that promote sustainable development.”

The GAP focuses on five priority action areas: 1) advancing policy; 2) transforming learning and training environments; 3) building capacities of educators and trainers; 4) empowering and mobilizing youth; and 5) accelerating sustainable solutions at the local level.

ESD is recognized as a key element of quality education and a crucial enabler for SD. The 2030 Agenda for Sustainable Development clearly reflects this vision of the importance of an appropriate educational response (UN, 2015). Quality education is explicitly formulated as a stand-alone Sustainable Development Goal (SDG No 4). Target 4.7 on education specifically addresses ESD and related approaches (UNESCO, 2017). Education for SDGs is cited in this edition – for each SDG there are three groups of learning objectives: cognitive, socio-emotional, and behavioural ones. ESD is used to implement learning for SDGs, and some case studies are presented. Many education-related targets and indicators are developed within the SDGs, too. 10 out of the 169 SDG targets are attached to Quality Education. They have been analysed together with the above mentioned agendas of global organizations and the



questionnaire results. Education, training and learning is linked with all the other SDGs as has been shown by the ICSU & ISSC Review. Education system is providing professionals, researchers and teachers for all the of human activity areas.

Education is believed to be closely linked to demography and resource consumption. While the first one reduces population growth rate, the second one increases consumption (McKeown, 2006). The most developed countries with the highest education levels have the highest per capita consumption rates. Therefore, ESD has to be reoriented towards decreasing consumption, requiring de-growth and life style revolution in developed countries. Reisch et al (2016) are suggesting 5 focus areas on research for sustainable consumption: 1) sustainable macroeconomics; 2) sustainable consumption, well-being and the “Good Life”; 3) sustainability in global supply chains; 4) alternative systems of provisioning for sustainable consumption; and 5) policies fostering sustainable consumption.

GlobeScan/SustainAbility Survey (GSS) evaluated the progress made on SDGs, ranking their relative urgency. The 4th Goals – Quality Education ranked 5th. Quality Education was found to be the 2nd most important SDG for society to focus on, only Climate Change was higher on the impact importance. In organizational units the most attention was paid to Climate Action, and Responsible Consumption and Production while Quality Education was 5th.

2 The 12 key issues of ESD

Higher education institutions (HEIs) accepted and signed many declarations, charters and partnerships to improve the effectiveness of ESD. Lozano and al. (2013) analysed 11 declarations for sustainability in higher education and found that the elements:

- *Curricula, collaboration and outreach, operations, and research* were considered by almost all initiatives
- *Trans-disciplinarity, collaboration of universities, and ‘educate the educators’* were considered by about half of the declarations
- *On-campus experience, assessment and reporting, and the institutional framework* are cited by a small number of the initiatives, only.

In this paper, content of an ESD course was searched for by examining the available literature and using personal experiences. The first draft of the ESD 12 key issues was prepared for the Copernicus Alliance Conference (CA, 2016). During the Interactive Session, the discussion group supplemented the draft version, and added 3 key learnings and one challenge found at the discussion. The key learnings were: holistic education, stakeholders’ awareness, participation and cooperation, and building capacity of stakeholders. The challenge was timely evolution of the human society towards a deep transformation – the strong sustainability. The improved paper was further elaborated using literature sources and practical experiences. The key issues are organized in 4 groups (approach, contents, teaching, and organization) with 3 items each. They are intended to be used for teaching and learning about ESD at all grades, but they have to be shaped to the level used.

The proposed **12 key issues of ESD** are:

1. **ESD scope:** SD and ESD definitions, education at all the levels (primary–tertiary), life-long, formal, non-formal and informal education, teaching & learning, ESD key milestones, ESD competencies, quality education, and weak and strong sustainability



2. **ESD policy:** vision, mission, peace, justice, and non-violence, democracy, rule of law, strong institutions, public awareness and participation, power and influence distribution, sustainable communities, cities, countries, and regions, and population control (towards zero-growth)
3. **ESD cooperation:** empowering and mobilizing youth and aged people, intergenerational cooperation, cooperation between stakeholders (institutions, companies, communities, etc.), and partnerships
4. **Environmental pillar:** *climate change, adaptation and mitigation, pollution prevention and zero waste, life cycle approaches, biodiversity, disaster risk reduction, and the 6 Lisbon principles (responsibility, scale-matching, precaution, adaptive management, full cost allocation, and participation)*
5. **Social pillar:** *human rights, hunger and poverty eradication, security, clean water and sanitation, health and well-being, reduced non-equalities (gender, income, living standard ones), decent work, quality education, cultural diversity, sustainable urbanisation, and sustainable life styles*
6. **Economic pillar:** *resource (raw materials, energy, water, air, land) efficiency and circular economy, affordable and clean energy, sustainable consumption and production, R & D, innovations and entrepreneurship of all stakeholders, and economic de-growth*
7. **ESD methodologies:** participatory teaching and learning, student-centred teaching, critical, interdisciplinary, and systems thinking, creativity, and imagining future scenarios (envisioning)
8. **Transformative teaching, learning & training:** holistic approach, ESD history, infrastructure and environments, ESD toolkit, developing case studies
9. **Building capacity** for educators and trainers at all levels, media, developing pedagogies, tools, literature, project reports and presentations (PowerPoints, videos, etc.), and FINANCING of projects
10. **ESD and SD metrics:** *indicators and indices, sustainability accounting and reporting*
11. **ESD and SD documents:** *international agreements, declarations, Agenda 21, 2030 Agenda for SD*
12. **ESD and SD institutions:** *UN (UNESCO, UNCED, UNEP, UNECE), EEA/EPA, global and regional associations (IAU, CA), national institutions, and NGOs.*

3 Discussion

3.1 ESD Scope

The ESD course shall start with the *definitions* of SD and ESD. It is intended to be taught at all the levels (from the primary to the tertiary one), including life-long, formal, non-formal and informal education. ESD scope from early events and documents up to modern teaching and learning of SD follows. The key milestones of *ESD* are: Earth Summits in Rio de Janeiro in 1992 (including Agenda 21, Rio Declaration and Conventions), Rio+10 conference in Johannesburg (with the first USA boycott; Plan of Implementation, PoI), Rio+20 summit, again in Rio (document “*The Future We Want*”), The Decade of ESD, and the Global Action Programme (GAP) on ESD with the Climate Change Education for SD, and, finally SDGs with the Goal No. 4 on quality education, and the target 4.7 on knowledge about SD, ESD and sustainable lifestyles.



ESD competences (UNECE, 2012) present essential characteristics of ESD (holistic approach, envisioning change, and achieving transformation), and the framework of learning experiences (learning: to know, to do, to live together, and to be). UNESCO (2017) is citing 8 key competencies for achieving the SDGs: 1) system thinking; 2) anticipatory, 3) normative, and 4) strategic approaches; 5) collaboration, 6) critical thinking, 7) self-awareness, and 8) integrated problem-solving.

Quality education shall be inclusive and equitable, and promote learning opportunities for all (SDG 4). It is including quality from the early childhood development to the secondary education, skills at technical, vocational and tertiary levels, entrepreneurship, and ESD (UN, 2015). The World Economic Forum (WEF, 2015) proposed five key goals: 1) to unleash the infinite potential of humanity, 2) to learn how to apply oneself as an instrument towards lifelong value, 3) to learn how to shape the future, 4) to understand and master the conditions for peace, and 5) to learn how to be healthy and happy. The World Bank is citing six necessary components (referred to as the 6 A's) to achieve such reforms: 1) assessment, 2) autonomy, 3) accountability, 4) attentions to teachers, 5) early childhood development, and 5) culture (Patrinos et al., 2014). Six crucial dimensions of quality education are: 1) equity, 2) contextualisation and relevance, 3) child-friendly teaching and learning, 4) sustainability, 5) balanced approach, and 6) learning outcomes" (VVOB, 2018). Ng's research (Ng, 2015) indicates that quality education "includes holistic development, equips students with the knowledge and skills for the future, inculcates students with the right values, and imbues students with a positive learning attitude". It is "delivered by good teachers, enabled by good teaching and learning processes, and facilitated by a conducive learning environment". Ofei-Manu and Didham (2014) argue that quality ESD could be improved by: "supporting curriculum towards transformative educational and teaching approaches, strengthening teachers' competency for ESD, guiding school administrators to support experiential education, and encouraging education policy makers to consider transformative learning approaches and the integration of ESD into standard educational policy".

Weak sustainability believes that 'natural capital' can be substituted by 'human capital'; e.g. coal as natural resource can be converted into electricity and used to improve human life. It was developed within the environmental economics by Robert Sollow and John Hartwick in 1970s. *Strong sustainability* assumes that both 'capitals' are complementary but not interchangeable – economy is only a subset of society, and society is dependent on the environment (it is often presented in 3 circles, where economy is embraced by society and society is encircled as being determined by environment). Land, water, air, and biodiversity cannot be substituted. Economy and society are constrained by environmental boundaries – limits to growth. Therefore, strong sustainable consumption is about de-growth (Lorek and Fuchs, 2013).

3.2 ESD Policy

ESD vision is a balance between society, economy and environment while preserving the natural resources of our Planet for future generations. The vision of UNESCO (2000) on ESD is to provide learners with the "skills, perspectives, values and knowledge to live sustainably in their communities". An empirical study in Czech Republic indicated the vision of ESD learners to be: self-confident, grounded, open, and engaged (Dlouha and Pospíšilova, 2018).



ESD *mission* is defined in the SDG 4 with its 7 targets and 3 targeted actions. The mission of ESD in higher education is to make the world a better place to live, and create graduates who are able to contribute to solutions of our urgent societal needs (AASHE, 2017). UNECE (2017) *Strategy* for ESD is to enable the learners for “leading healthy and productive lifestyles in harmony with nature and with concern for social values, gender equity and cultural diversity”.

Peace is not just the absence of war or violence, but also a pathway to expand human potential without harming others; peace creates conditions for SD (MGIEP, 2014). Violence kills more than 1.6 million people every year (Bhagabati, 2006). In 2015, the cost of violence was estimated to be 13.6 T\$ (trillion USD = 10^{12} \$) and is expressed in purchasing power parity (PPP) terms (Schippa, 2017). This is equivalent to 13.3 % of world GDP or 1 876 \$/a (per annum) per person or 5 \$/d (per day) per person, every day of the year – World Bank estimates that 10.7 % of the worlds’ population are living on less than 2 \$/d. And we spend next to nothing on peace.

ESD started by concentrating on pedagogical approach and environmental problems. Later, *social* matters were also addressed including equality, justice, non-violence, democracy, rule of law, strong institutions, public awareness and participation, power and influence distribution, sustainable communities, cities, regions, nations and countries, population control, etc. The topics were stimulated by the UN documents on 2000–2015 MDGs, and 2016–2030 (SDGs). A typical example of including social responsibility into education is the Sustainable and Socially Responsible University of Maribor (SSRUM, 2018).

3.3 ESD Documents

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As there is no place to go into details of the further 10 key issues of ESD, the most important ESD documents will be cited to help the reader find additional information:

- Education for Sustainable Development Toolkit (McKeown, 2006).
- The Competences in ESD (Learning for the Future Competences) (UNECE, 2012)
- Sustainable development in higher education (HEFCE, 2014)
- ESD and the Quality Management and Enhancement Framework (Longhurst, 2014)
- Shaping the Future We Want, UN Decade of ESD, Final Report (UNESCO, 2014)
- Education and the SDGs, Educate a Child (EAC and FHI 360, 2016)
- Education for Sustainable Development. Learning Objectives (UNESCO, 2017)
- Consultation on Further and Higher Education and the SDGs (EAUC, 2018)
- Issues and trends in Education for Sustainable Development, (Leicht et al., 2018).

4 Conclusions

The last years have sharpened some social responsibility focal points on SDGs and brought additional tasks for ESD like:

- Decreasing the growing inequalities between 1 % of rich individuals and the 99 % majority
- Exploitation with the rise of precariat on one hand, and plutocracy and oligarchy on the other hand
- Predominant influence of multinational corporations over policy, jurisdiction, and democracy



- Avoidance of taxation for common good by using different types of tax havens
- Harmful influence of neoliberalism on social market economy, social security, and social justice
- Massive human migrations because of wars and climate changes, and the growth of terrorism
- Nationalism and populism as an unwanted response to those problems.

ESD has to respond to these new challenges of humankind by modifying and focusing its paradigm.

5 Literature

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