



## THE DEVELOPMENT OF INDICATORS FOR SUSTAINABLE EDUCATION: METHODOLOGICAL AND CONCEPTUAL APPROACHES

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**Abstract.** The measurement indicators of sustainable education and its sustainability, as well as the quality of education are widely discussed and controversially perceived in theoretical literature. Sustainable education is associated with the advanced, sustainable and integrated social progress and economic growth. Education as a central indicator of integration and growth is encouraged by additional focus on simulation and education based on creative design. This indicator is associated with the needs of local community, meaningful and creative business of children, youth, women and elderly people. Sustainable education models suggest opportunities for new skills development and job creation, promotes the mobility of the youth and reveals additional personal capacities. There are selected and adapted 12 indicators (criteria) based on global indexes measuring the sustainability and foresight/intelligence of educational processes, individual institutions or organization.

**Keywords:** sustainable education, foresight/intelligence, measurement, social economy and welfare.

**JEL classification:** I25.

### 1. Introduction

The overall objective of this paper is to provide evidence base for the discussions on current strengths and future growth potential of sustainable education development. The future seems highly uncertain in the face of prolonged education stagnation globally and locally and exponential speed of technological challenges and high dependency education subsector from Government at weakness of Civic society impact. Instead, this paper seeks to find main indicators for development of sustainable and entrepreneurship education according to strengths and challenges that could hinder future development.

Sustainable educational goal is a smart and active inclusive social progress, which influences the increase of economic growth and social partnership of the leading local community. Education is central and growth rate, if additional focus can be encouraged on an integrated simulation, active inclusion – based on design and creativity education, associated with the community needs of children, youth, women and the senior empowerment for civic engagement. Sustainable education competencies modelling new skills, promote job opportunities and the mobility for young people and

creatively reveal additional personal skills. The child and human being is the central and most important component of educational system. Welcoming the general education curriculum stated educational purpose – to develop the spiritual, intellectual and physical capabilities of an individual, to develop an active, responsible citizen who will acquire the competencies required for social inclusion and lifelong learning, and the result, which is expected to achieve, we must justify the measurement of sustainable education indicators, which is particularly important for personal development and empowerment of both present and future society. We analyse education processes like the psycho-technology for each growing child – who has a unique innate information technology and the brain, helped him to find the creative unique activity in which it is created by nature.

The purpose of this article is to analyse and adopt the different global indexes, which are used globally or by European governments and reveal or compare educational systems' main parameters in order to promote responsible and sustainable education practices. This research sets out from the initial hypothesis of establishing, how the design and implementation of sustainable education

reveals promoting changes in government's capacity for action and impact in social and environmental issues in their relationship and social partnership between private, public, NGO sectors and research institutions. We mention that a systemic approach gives an answer to the sustainable education analysis about the needs of present-day societies and are able to empower the new challenges facing education as leading actor in social clustering in depth. As a result, it seems limited to analyse educational policy from the outmoded approach of 'hard power' or exam results.

Generally accepted that certain characteristics are important for the successful implementation of Education and Sustainable development, reflecting the equal importance of both the learning process and the outcomes of the education process (adapted from 'UN Decade of Sustainable Development' UNESCO Nairobi Cluster, 2006). ESD should: be embedded in the curriculum in an interdisciplinary and holistic manner, allowing for a whole-institution approach to policy making and share the values and principles that underpin sustainable development; promote critical thinking, problem solving and action, all of which develop confidence in addressing the challenges to sustainable development; employ a variety of educational methods and debate to illustrate the processes; allow learners to participate in decision-making on the design and content of educational programs; address both local and global issues, and avoid jargon-ridden language and terms; look to the future, ensuring that the content has a long-term perspective and uses medium and long-term planning.

Despite the impulses generated by the declaration of the UN Decade, the topic of ESD presently receives no explicit emphasis within the European and international higher-education landscape. Though markedly growing in number, as yet few sustainability pioneers on the university level focus their efforts more on general ESD themes, while rarely reflecting on the specific education aspects inherent to the core principles of sustainability. Along these lines, it can be stated that ecologization is indeed increasing (Filho 2000) among universities globally, as is the sensitization for sustainability issues – with environmental technology being the key focal point. The United Nations Economic Commission for Europe (UNECE), which comprises 55 countries from across Europe, Central Asia, the USA and Canada, has recently concluded perhaps the most substantial ESD indicator effort to date. Task Force was nominated to prepare a Regional ESD Strategy that was adopted in 2005 at Vilnius by all UNECE Member States (except the USA) along with the Vilnius Framework for Implementation. Through-

out the 20th century, the most countries like Denmark, Finland, Netherlands, and Sweden developed an extensive and comprehensive welfare state. Since the 1950s, their social policies have been directed towards improving service learning program in education, social provision and services within this framework. Furthermore, during the final decade of the twentieth century, these governments began to acknowledge the importance of other economic actors – private companies, civic society above all – in addressing and resolving social problems. Following the Second World War and the Beveridge Report, Britain built upon its time-honoured Elizabethan, Victorian and Edwardian foundations to develop a welfare state that was designed to be comprehensive and to provide 'cradle to grave' care for its population (Fraser 2009; Lowe 2005).

A unique system of welfare was established, embracing universal and free-at-the-point-of-use services, including education and health care, along with selective and means-tested benefits, funded by a system of national insurance and general taxation. The resulting welfare state, with its National Health Service, was rightly seen as a model, a lasting monument to the post-war consensus and a source of envy for other nations (Lowe 2005; Glennerster 2006).

Over the last decade we have a lot of debates about sustainable education and education innovation and hundreds of education reforms in different countries, which adopting public policies to promote and encourage businesses to behave in a responsible and sustainable manner (Aaronson, Reeves 2002; Moon, Sochaki 1996; Zappal 2003). In this sense, governments have been involved in a new type of political relationship with businesses and civil society stakeholders to promote responsible and sustainable business practices (Aaronson, Reeves 2002a, b; Albareda *et al.* 2006; Fox *et al.* 2002; Moon 2004). This voluntary social approach phenomena changes governments' roles in relation to the promotion of business, social society and sustainable education practices (Midttun 2005; Matten, Moon 2005; Moon 2004; Roome 2005). Most of the research conducted on governments and universities to suggest the emergence of new roles adopted globally and locally levels include social partnership and social clustering issues (Fox *et al.* 2002; Lepoutre *et al.* 2004; Nidasio 2004). In parallel, Lepoutre *et al.* 2004 review the strategic roles for universities from traditional researches to active motivate, orchestrate, and modulate present common tools for modern competencies for public action managing strategic uncertainty (public information campaigns, organizational reporting, labelling, contracts, agreements, and incentives).

This new approach and challenges has also been analysed by other authors under the new forms of public–private partnership linked to CSR (Gribben *et al.* 2001; Nelson, Zadek 2000, Kvieskienė, Kvieska 2012) in order to resolve social problems, to promote coordination with companies, social organizations, and local governments and also to analyse the role of social researches in public–private partnerships research and modelling of educational institution impact to modern governance (Guarini, Nidasio 2003; Kvieskiene 2005; Kvieskiene, Kvieska 2012).

## 2. Methodology and research design

The following methods were used for this research. Surveys of documents produced by Lithuanian Government and official bodies, independent bodies, professional and academic sources, as well as international bodies including the European Union were undertaken. Both online and manual searches were conducted. Key terms for bibliographic resources included: sustainable education, welfare; social economy and welfare; inclusive education for adult, families and children, older people; people with disabilities; poverty; unemployment; risk; personalization; participation; subsidiarity and solidarity. The date for the searches was the period March-May 2013. Two separate analytical paths are used for the development Education Sustainable Indicators. The first is to proceed “deductively” by either developing ESD concepts or relying on existing ones for an analysis, and then operationalizing and “indicatorizing” these concepts. The second option is to work “inductively” using existing indicators, particularly from the separate fields of education and sustainability, and to examine these for their suitability as ESD indicators. This form of analytical separation offers two different focal points and approaches, with a circular model consisting of deductive analysis, inductive gathering of data and renewed conceptual testing (possibly including several rounds) best approximating practice in the field. A primarily inductive approach was chosen to gather indicators for the Pilot discussion with national and international experts. As a result, the first step was to identify the already existing ESD indicators (usually in the form of sets). However, because existing initiatives that specifically target Education for Sustainable Development are generally still in the early developmental stage, we choose to examine indicators used in the fields of education and sustainability as part of the study. This choice rests on the fundamental hypothesis that the “intersection” of existing education and sustainability indicators

may likely reveal certain ones suitable for use as ESD indicators, and that these need to be investigated further.

The adequate portfolio ideology and systematic methodology will be used to solve the problem (Rutkauskas *et al.* 2009). The concept of portfolio is very diverse, but almost in all cases, there is an opportunity to find out the way to connect the potential of separate assets in a system, not only for the highest result to obtain, but also for the most effective usage of resources. The change in mind-set necessary to achieve this vision is a sustained, long-term effort to transform education at all levels. Despite the efforts of many individuals and groups within the formal and informal educational system, education for a just and sustainable world is not a high priority. Indeed, the people coming out of the world’s best colleges and universities are leading us down the current unhealthy, inequitable, and unsustainable path. Only a few architecture schools have made sustainable design a foundation of education and practice (Sterling 2001). The greatest evidence of the need to transform education is the state of the world and the tremendous effort being made by thousands of nongovernmental organizations (NGOs) and schools in environmental and sustainability education to “fix” the traditional educational system. By identifying this problem we initiated interview of Representatives locally and globally from arena Education Researches, innovative private, public and civic sectors. We send 250 questionnaire for Select Representatives. In same way we Acknowledge 165 Questionnaire, 49 from Civic Society, 101 from Expert and have Focus group discussion with 21 national and international expert’s education project leaders.

In focus group, we ask the question: which indicators in project managing are the most important for Sustainable Education? Experts choose:

- 1) Systematic approach: team working, (PPP + schools, NGO, Universities, Social Services, Business, etc.), networking, clustering, database, case study, second chance, alternative programs) (LT, SW; FI, LV, AT, CZ, ES, SL, PL);
- 2) Emotional intelligence: sustainability, environment, climate, creativity, emotional, natural setting =IQ (better teachers, quality of school, green school, social partnership) (NE, FI, SW, FI);
- 3) Inclusive aspect: skilled and innovative based social researches, (AT, PL) social pedagogues (LT, ES, PL, CZ), youth coaches, one contact system, crisis intervention, consulting, guidance, social mediation, mentoring (AU, LT, PL, ES, NE, BE).

The second question for focus group discussion was: in what ways does education and training need to be developed to be attractive to early school leavers as a “second chance”? Experts mention:

- 1) Expand non formal education, learning by doing, service learning for personal development;
- 2) Empowerment all social actors for social partnership;
- 3) Flexible and sustainable innovation;
- 4) Embedded education, simulation, guidance;
- 5) Prevention-intervention, postvention and prevention, adventure pedagogy for positive socialization;
- 6) Outreach work (Street, clubs, day centres, meeting points);
- 7) Positive socialization, preventive work, raw models, peer support, social mediation, networking, value based community programs, signs of risk analysis (LT, SW, FI, LV, AT, CZ, ES, SL, PL).

### 3. Intelligent (smart) education

Sustainable education includes conception of intelligence with analytical, creative, and practical aspects and smart tools, which we need in 21st century. If we plan to create an effective bridge to Horizon 2020 and to change Socio-economic Sciences and Humanities research and practices we can task to focus them on societal challenges we propose directly linked to inclusive, innovative and secure societies. Lithuanian society suffers from weak social capital – lack of trust, increasing feelings of distrust and insecurity. Globalization, development of new means of communication, increased mobility of people including economic migration pose new challenges related to tolerance to other cultures, but also the risk of losing the ethnic and cultural identity and the declining ability to cope with the commercial, mass culture. Urbanization, unfavourable demographic processes in the rural areas, lifestyle changes, and concentration of culture in the major cities negatively influence the historical ethnographic culture of the regions. Social economy mechanism incorporating in education is understood in different ways, but authors and entrepreneurs mostly find it as alternative education and social sector activities, including social partnerships. Robert D. Putnam, a political scientist and professor of public policy at Harvard University, works for the formation of modern civil society through the development of social capital based on societies and associations, individual trust in other individuals, socium and institutions, while at the

same power and role as the associative civic index. Key conditions for success in a civil society are positive sociability, an associative person who seeks power and control, and the ability to build social networks and communities. Community is not simply the fact of social life, but also the value and values that are mostly formed in those communities. People who come together for these purposes are usually associated with non-profit activity focused on the public interest and accomplish their goals mostly through non-governmental organizations. In different countries, non-governmental organizations are developed differently, but there are similarities between them.

**Table 1.** Education System in Challenges Social Economical Constitutes (source: compiled by authors)

	<b>Empowerment Voluntary Work</b>	Home associations', Big Profit Organization, Big Community Association and Confederation, National Organization Company,
<b>Education System</b>	<b>Community Work Learning by doing</b>	Safe Neighborhood, Small Community, Civic Society, Small Support group
	<b>NGO, Private Power Organization.</b>	PPP, Cooperative, Union, Development Trusts and Credit Unions

The Education do not use broadly constitutes a broad range of activities which have the potential to provide opportunities for local people and communities to engage in all stages of the process of local economic regeneration and job creation, from the identification of basic needs to the operationalization of initiatives. The educational system covers the economic potential and activities of the self-help and co-operative. Movements, that is, initiatives that aim to satisfy social and economic needs of local communities and their members. This sector includes co-operatives; self-help projects; credit unions; housing Associations; partnerships; community enterprises and businesses. The Social Economy is the fastest growing sector in Europe and this context is fertile ground for the creation of many new enterprises locally'. The measurement indices of sustainable education as well as the quality of education are widely discussed and controversially perceived in theoretical literature. Sustainable education is associated with the advanced, sustainable and integrated social progress and economic growth. This indicator is associated with the needs of local community, meaningful and creative simulation of social busy-

ness for children, youth, women and elderly people. Sustainable social researches education models the opportunities of new skills and job creation, promotes the mobility of the youth and reveals additional personal capacities. We selected and adapted 12 criteria based on global indexes measuring the sustainability and foresight/intelligence of educational processes, individual institutions or organization.

#### 4. Measurement indications and criteria of sustainable education

The following indicators of sustainable education can be distinguished:

##### 1. Education policy indicator.

Structure: expenditure for education (1) voucher per child in secondary school; (2) voucher per student in university; GDP for research (3), preschool coverage (4), non-formal (5) education, service learning, community based activity (6).

##### 2. Education for competitiveness and social stratification.

Structure: NEET, Happiness, Well Being index (Well Being index 2013), (7) Gini index; (8) social inclusion index (children, youth with disability in active inclusion activities, youth unemployment); High education accessibility, Programme for international Student Assessment; Essential Science Indicators.

##### 3. Education for Welfare.

Structure: Prosperity index; (9) A comprehensive assessment of the lives and well-being of children and adolescents in the economically advanced nations (10); Globalization Maastricht index (11); the Democracy Ranking of the Quality of Democracy; CPI.

**Table 2.** Education System in Challenges Social Economical Constitutes (source: compiled by authors)

1	<b>Trust (Social Capital);</b>	<b>Creativity;</b>
2	Local Tradition Improvement	<b>Trust (Social Capital);</b>
3	<b>Creativity</b>	<b>Social Inclusion;</b>
4	<b>Social Inclusion</b>	Social Communication

#### 5. Conclusions

Based on a set of indicators adopted in this research we identified fields exhibiting considerable strengths in both current research intensity and impact strengths in human potential and poverty of education growth in existing educational infrastruc-

ture and taking in partnership business/science/civic society recourses. Sustainable Education changes highlight new requirements for entire sector and the collaborating public administration bodies will have to professionalize in order to cope with substantial funds and projects that are more complex. Key problem and main areas of sustainable education are **trust** (social capital), **creativity** and **active inclusion**, include creativity, flexibility, adventures and smart technologies, systemic approach, continuity of local traditions, active value based participation with task development of economic well-being in local communities and in the country.

Finally, the amendment of regulations may bring about unexpected results. Changes can be monitored and recommended to be transferred to national legislation.

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