



## OECD WORK ON COMPETENCIES FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

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### Background

In 1997, the OECD launched the *Programme for International Student Assessment (PISA)* to monitor the extent to which students near the end of formal education have acquired the knowledge and skills essential for full participation in society. Several international surveys have been conducted since that time comparing students' knowledge and skills in the areas of reading, mathematics, science and problem-solving (see [www.pisa.oecd.org](http://www.pisa.oecd.org)).

As background to PISA, the OECD initiated the project on the Definition and Selection of Key Competencies (DeSeCo) to provide a conceptual framework for the identification of key competencies. Carried out under the leadership of Switzerland and linked to PISA, the project brought together experts in a wide range of disciplines to work with stakeholders and policy analysts. The conceptual framework they developed classifies student competencies into three broad categories ([www.oecd.org/dataoecd/47/61/35070367.pdf](http://www.oecd.org/dataoecd/47/61/35070367.pdf)):

- 1) using tools interactively
- 2) interacting in heterogeneous groups
- 3) acting autonomously

OECD Education Ministers noted that sustainable development and social cohesion are specific motivations for the DeSeCo study – “*Sustainable development and social cohesion depend critically on the competencies of all of our population – with competencies understood to cover knowledge, skills, attitudes and values.*” On this basis, ESD competencies can be further classified as:

- 1) subject competencies – knowledge, facts, definitions, concepts, systems
- 2) methodological competencies – skills, fact-finding, analysis, problem-solving
- 3) social competencies – communicating, working interactively, citizenship
- 4) personal competencies – attitudes, values, ethics

With regard to competencies for ESD, the OECD is specifically interested in *knowledge* or *subject/methodological* competencies in formal education. The UNESCO Decade of Education for Sustainable Development is oriented to promoting education *for* sustainable development, including broad changes in teaching and learning approaches to ensure sustainable lifestyles. Part of this is educating *about* sustainable development to develop subject and methodological competencies. However, there is still little agreement on the subject content of sustainable development, at what school levels it should be taught, and how it should be included in core curricula.

### Going beyond environmental education

Knowledge and subject competencies in curricula approaches for Education for Sustainable Development tend to focus on the environment. They may refer to broad sustainable development concepts

and skills (*e.g.* values, citizenship) but not generally to specific sustainable development subject matter or knowledge. Curricula guidance is needed for formal education systems which goes beyond environmental education to teach students *about* sustainable development. This includes the more complex concepts and thinking related to sustainable development, including systems and measurement approaches. Subject competencies for ESD can be linked to other competencies (social and personal) and to sustainable school practices.

### **Proposed OECD approach**

A proposed ESD subject approach is presented in **Table 1**. Here, teaching 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). This approach could be adapted by countries to suit their own educational systems and culture, as generally based on the following elements:

1. **Courses** – Sustainable development should be part of core curricula at all school levels, which will differ in the degree of course integration. At primary level, the basic concepts associated with each pillar should be taught broadly as part of existing lessons or courses. At secondary level, connections between two (or more) pillars should be taught in relevant courses such as social studies, geography and science. At tertiary level, the integration of the three pillars of sustainable development should be presented in a more overarching way through stand-alone sustainable development units or courses.

2. **Concepts** -- Curricula should progress in complexity in terms of integrating the three sustainable development pillars. In primary school, a foundation in economic, environmental and social concepts should be established. At secondary level, integrative concepts and methods should be featured, including economic-environment, economic-social, and social-environment interactions. University or tertiary programmes should stress: 1) the integrated assessment of the economic, environmental and social aspects of issues; 2) the longer-term intergenerational and future dimensions; and 3) the need for open and transparent governance processes to involve stakeholders.

3. **Systems** – Sustainable development concepts can be illustrated by placing them in the context of relevant systems. At primary level, economic markets (supply and demand), ecosystems (environmental diversity), and social systems (society and its actors) should be explained. The integration of these systems could be taught at secondary level through examples such as carbon trading (economic/environment), human capital (economic/social), and transport (social/environment). Systems for the full integration of the three pillars include strategies for national sustainable development (NSDS), consumption and production (SCP), and sectors such as education (ESD).

4. **Measurement** – Quantitative and qualitative approaches to measuring the three pillars and their integration should be taught together with basic concepts and systems. At primary level, these could relate to wealth (GDP per capita), ecological and carbon footprints, and participatory processes such as voting. At secondary level, examples of measuring interactions include calculating the costs of inaction on climate change (economic/environment); assessing income distribution (economic/social); and measuring happiness and well-being (social/environment). At tertiary level, comprehensive approaches for measuring sustainable development consist of sets of economic, environmental and social indicators; sustainability indices which combine these measures; and sustainability impact assessments based on these measures.

5. **Practices** – Developing subject competencies should be accompanied by practical experiences to develop social and personal competencies. Starting from the earliest years (pre-primary), participatory

learning strategies can produce the attitudinal and behavioural changes and values (tolerance, solidarity) needed for sustainable development. There exist a wealth of Internet tools and other materials for applying learning in a variety of real life contexts. At primary level, these include the many environmental activities of eco-schools. In secondary school, starting green businesses and promoting *Fairtrade* products can increase understanding of positive entrepreneurship and social justice. In university, the full economic, environmental and social dimensions of sustainable consumption and production and corporate responsibility should be explored and applied.

**Table 1. Proposed OECD Curricula Approach for Education for Sustainable Development**

	<b>Courses</b>	<b>Concepts</b>	<b>Systems</b>	<b>Measurement</b>	<b>Practices</b>
<b>Primary School</b>	Single pillars taught broadly in general lessons	a) economic b) environment c) social	a) markets b) ecosystems c) society	a) wealth b) eco-footprints c) voters	a) fundraising b) eco-schools c) citizenship
<b>Secondary School</b>	Integration of two (or more) pillars taught in existing courses (e.g. social studies)	a) economic/ environment b) economic/ social c) social/ environment	a) carbon trading b) human capital c) transport	a) costs of climate inaction b) income distribution c) measures of well-being	a) green entrepreneurs b) poverty reduction c) <i>Fairtrade</i>
<b>Tertiary Level</b>	Integration of three pillars taught in stand-alone units (sustainable development studies)	a) economic/ environment and social b) inter-generational concerns c) participatory processes	a) sustainable development strategies (NSDS) b) sustainable consumption and production strategies (SCP) c) education for sustainable development strategies (ESD)	a) capital-based indicators b) sustainability indices c) sustainability impact assessments	a) sustainable production b) sustainable consumption c) corporate responsibility