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**United Nations Economic Commission for
Europe Steering Committee on Education
for Sustainable Development**

Fourteenth meeting
Geneva, 2 and 3 May 2019
Item 5 of the provisional agenda
**Outcomes of the first meeting and
of the subsequent work of the Ad hoc group
for Strategic Planning: the draft concept note
for the post-2019 implementation framework**

Outcomes of the first meeting of the Ad hoc group on strategic planning: the draft concept note for the post-2019 implementation framework

Note by the secretariat*

Summary

At its thirteenth meeting held in 2018, the United Nations Economic Commission for Europe Steering Committee on Education for Sustainable Development discussed the future of education for sustainable development to provide innovative suggestions, tools and recommendations for bridging the gaps and giving new impetus to education for sustainable development and the role of the Steering Committee on both regional and national levels. To address these issues, the Steering Committee created an ad hoc group from its interested members.

First meeting of the ad hoc group was held in the Hague, 27-28 November 2018. Consultations between the leaders and the members of the ad hoc group continued online. The present note incorporates the input by the ad hoc group based on (a) the discussions and recommendations of the Hague meeting; (b) the existing policy frameworks for the future of education for sustainable development by the United Nations Educational, Scientific and Cultural Organization and the European Council; and (c) the existing

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* This document was not formally edited

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experience and achievements of the Steering Committee. This document can be further reviewed and developed.

The Steering Committee is invited to consider the present note and decide on the further steps.

Contents

I. Introduction

1. The international agendas urge for reorienting the future of education for sustainable development (ESD) in the United Nations Economic Commission for Europe (ECE) region. At a policy level the Sustainable Development Goals (SDGs) provide a new umbrella: SDG 4.7, specifically addressing ESD, and SDG 17, promoting cooperation, partnership and knowledge platforms. The Paris Agreement on Climate Change opens the urgency for transition in the energy-sector, but also in the food-system, the water-system, the biodiversity and circular economy. Also, other agreements, covenants and conferences of the parties to the United Nations (UN) Climate Change Conference under the Commission on Sustainable Development call for more sustainable lifestyles and economic systems in transition, not in the least addressing the need for capacity building, knowledge, sustainable lifestyles and new competences for social innovation.

2. ECE work has sought to align with, and support, the United Nations Decade of Education for Sustainable Development (2005–2014) and its follow-up Global Action Plan on ESD (GAP) (2015-2019). There are currently dialogues facilitated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to establish the direction of the new global programme for ESD (future plans to be confirmed at the UNESCO General Assembly in 2019). The Regional Forum on Sustainable Development, to be held in March 2019 in Geneva, will discuss future pathways, which should inform the work of the Steering Committee.

3. In the European Union (EU), the recent 'Joint statement among EU countries' and 'the new European consensus on Development 'Our world, our dignity, our future' (STATEMENT/17/1547 at June 7th, 2018) also sets the Sustainable Development Goals, including education, as a compass for the next decennium. Recent Organisation for Economic Co-operation and Development (OECD) document "The future of education and skills: Education 2030", published in 2018, refers to the Sustainable Development Goals and the role of education. Other authoritative document such as 'Education and Training 2020' offers a new strategic framework for the European cooperation in education and training and recognizes needs in sustainability and needs in education for sustainability. These policy platforms offer important opportunities to engage new stakeholders with ESD and support mainstreaming efforts in this area.

4. Specifically, at the High-level Meeting of Education and Environment ministries, held in Batumi, Georgia in June 2016 the mandate for cooperation on ESD across our region, initially established at the High-level Meeting in Vilnius (2005) was extended to 2030. This timeline aligned with other global commitments including the 2030 Agenda for Sustainable Development (SD) and its SDGs.

5. Taking into consideration the present challenges faced by the Steering Committee, the new strategic planning should respond to:

(a) Decreased attendance at the meetings, especially from the Northern/Western European countries. Few countries are represented by both ministries of education and environment;

(b) Need for a fresher and deeper approach to engagement with ESD themes and processes;

(c) Need for the meetings' format supporting increased levels of participation;

(d) Need to better use the "Expert Groups" work (e.g. monitoring and evaluation; indicators) as most valuable and relevant;

(e)   Call for refocusing the ESD cooperation towards the 2030 Agenda to revitalize commitments and engagement.

6.   The core intention of the present document is to define how the ECE Steering Committee on ESD can add value to:

(a)   the work and priorities of the Steering Committee;

(b)   the work of other international stakeholders engaged in ESD;

(c)   the work and role of ECE in the implementation of the 2030 Global Agenda and its Sustainable Development Goals.

7.   The document is based on the outcomes of the ad hoc group work organised in the following four sub-groups:

(a)   Whole institution approach to education for sustainable development – institutions as communities of transformational learning;

(b)   Quality education and education for sustainable development;

(c)   Digital education, information and communications technology and education for sustainable development;

(d)   Entrepreneurship, employment, innovation and education for sustainable development.

8.   The Steering Committee may wish to consider the proposed strategic positioning, with a possibility to establish other ad hoc working groups or expert groups, aiming at key outcomes to be presented at the high-level meeting of education and environment ministries expected to take place in 2021 under the next Environment for Europe Ministerial Conference. This strand of work is also intended to inform the international dialogues about the future of ESD, currently taking place at the EU and UN levels.

II.   Strand 1: Whole institution approach to education for sustainable development – institutions as communities of transformational learning

A.   Introduction

9.   Education for sustainable development empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations, while respecting cultural diversity. It is about lifelong and lifewide learning and is an integral part of quality education. ESD is holistic as it addresses learning content and outcomes, pedagogy and the learning contexts. ESD is much more than just teaching about sustainable development. It is transformative as it promotes sustainable development by encouraging learners to reflect on their values and behavior and empowering them to transform themselves and their communities.

10.   Institutions promoting ESD should provide opportunities for educators/trainers and learners to adopt sustainable choices and lifestyles. This is not achieved solely by installing sustainable technologies, but also by systematically weaving sustainable development principles within the institution's management policy and progressively incorporating these principles within the institution's ethos. The UNECE Strategy for ESD states that "An educational institution, as a whole, …, should follow principles of SD" (CEP/AC.13/2005/3/Rev.1; para. 29).

11.   More recently, the Rio+20 outcome document "The Future we want"[1] endorsed the whole institution approach and encouraged educational institutions to implement "teaching sustainable development as an integrated component across all disciplines" together with "sustainability management" on campus and with their interface with the local community. The importance for promoting ESD through system wide interventions was also acknowledged in the Incheon Declaration for Education 2030, as well as in the Global Action Programme on ESD, where the promotion of whole institution approaches to ESD was identified as one of the priority action areas.

B.   Definition of the whole institution approach

12.   Educational institutions tend to define ESD in a variety of ways. Fostering a whole institution approach to ESD is significantly more challenging than just teaching about sustainable development and adding new content to courses and training programmes. A whole institution approach aims to mainstream sustainability into all aspects of an institution. This ultimately means that all aspects of an institution's internal operations and external relationships are reviewed and revised in the light of sustainable development and ESD principles. Within such an approach, each institution decides on its own actions regarding the three overlapping spheres: Campus (management operations), Curriculum (teaching/ learning and research) and Community (external relationships).

13.   A whole institution approach implies orienting the institution's strategy and ultimately its culture towards sustainable development. A whole institution approach can function as a role model and should be promoted at all levels and in all settings. A whole institution approach is therefore not limited to formal education settings but can also be applied in settings that are not normally associated with pedagogical practice. This includes institutions providing non-formal education (e.g. museums, art galleries, national parks) and informal education (e.g., local authorities, businesses, non-governmental organization), in public and private sector.

C.   Achievements regarding the whole institution approach

14.   ESD is an essential component in any strategy aimed at achieving the SDGs. SDG 4.7 asks member States to ensure that all learners "acquire values, attitudes and behaviors to promote sustainable development, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development". This implies that ESD is a lifelong and lifewide journey in learning that goes beyond schooling and permeates the various stages in the life of everyone. A whole institution approach provides opportunities for promoting the appropriate policies and measures in institutions from formal, non-formal and informal educational settings to confront major global challenges faced by democratic societies, such as respect for human rights and minorities, acceptance of diversity, peaceful conflict resolution, and societal and environmental sustainability.

15.   Given the importance of transforming the whole institution approach to ESD, most of the examples and initiatives regarding the whole institution approach come from the schools (mainly primary, secondary education and higher education).

16.   The national implementation reporting cycle carried out under the framework of the Strategy for ESD in 2010 has shown that the whole school approach is being developed and

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[1] https://sustainabledevelopment.un.org/futurewewant.html

implemented in the majority of ECE member States, with various countries providing incentives to support a whole institution approach (ECE/CEP/AC.13/2012/3). To emphasize the importance of integrating ESD in school plans, the Steering Committee made the commitment "to ensure that there was an ESD school plan in every school" (ECE/CEP/AC.13/2012/2). The Steering Committee also developed the ESD school plan framework, clarifying the core dimensions and characteristics that can serve as guidance for developing national and local approaches to ESD school planning.

D. Challenges for the whole institution approach and education for sustainable development

17.   The whole institution approach goes beyond formal educational institutions and comprises all organizations and institutions, including governmental and non-governmental ones. As the implementation of SDGs is at the top of governmental agendas, in public and private sector it is very important:

1. **To clearly define the meaning of the term whole institution approach and its implications to ensure that countries, organizations, stakeholders, etc. can understand its aims and tasks and apply this approach within their national and local frameworks, contexts and realities when implementing ESD and SDGs.**

18.   Different understandings and interpretations can provide a wide view on how a whole institution approach is perceived in different contexts and thus facilitate the identification of elements and tools that are keys for its implementation.

2. **To address, explain and describe the generic areas of a whole institution approach as a concrete framework that can be applied in a variety of institutions, organizations, sectors and contexts which are implementing ESD and SDGs.**

19.   The whole institution approach goes beyond the formal education institutions and embraces every sector of society be it political, social, educational and cultural. It also refers to a wide spectrum of stakeholders from all the societal levels. These areas of generic interest include: (1) Leadership - participation, continuity, responsibility at the learning place; (2) Quality development - any place of learning needs to have a vision of how it wants to develop, i.e. how to use ESD as a transformative process and what kind of monitoring and evaluation need to be put in place; (3) Youth as part of the participatory processes; (4) Teaching and learning in ESD for staff development; (5) Further training for everyone involved; (6) Campus management – such as waste management practices, energy conservation, purchasing policies, etc. ; (7) Innovation – being open to change and collaboration with other entities through networking opportunities at a local, regional and international level; (8) Communication networks within the institution but also with the outside world.

3. **To identify and describe the intrinsic elements that are vital for internal and external stakeholders in an institution/ organization and the obstacles and appropriate measures that can be taken to promote a whole institution approach.**

20.   Intrinsic elements can include: a shared vision that is translated into a strategy with an action plan. Such a strategy should foster a participatory approach that promotes commitment, ownership and responsibility for the common vision. Issues of communication, transparency, interdisciplinarity, interaction and self-reflection need to be addressed by the strategy.

21.   Obstacles can include: time constraints; lack of resources and funding; different priorities in an organization and of stakeholders; lack of political will; lack of international expertise; and ESD not being recognized as a priority for donors.

4.   To identify the stakeholders (internal and external) that can develop jointly a shared vision for the implementation of a whole institution approach and organize a framework of ESD competences that can facilitate stakeholders (at every stage and level) to work through and with ESD according to 2030 Agenda (particularly SDG 4.7).

22.   The Steering Committee has an important background and experience in the field of ESD competences. It is important to use the lessons learned and the expertise gained in the field of competences to elaborate and develop a set of competences required for the implementation of ESD through a whole institution approach that reflects diverse contexts, processes and mechanisms (i.e. governmental, institution, local, national, public, private).

E.   Activities, suggestions and actions that can be undertaken by the Steering Committee for the whole institution approach and education for sustainable development strand until 2030

23.   The tangible contribution of the Steering Committee to this agenda can be summarized as follows:

(a)   Collection of good practices showing the implementation of ESD and whole institution approaches by policy makers (i.e. at the governmental level, public and private sectors, higher education, technical and vocational education and training (TVET), etc.).

(b)   Develop a platform for countries to upload examples of good practices in ESD and whole institution approaches.

(c)   Produce a two-page practical guide in the form of checklist that shows the benefits of implementing ESD through a whole institution approach. This guide will include specific questions that promote reflection on the whole institution approach tailored at an institutional, governmental, educational, and organizational level.

(d)   Produce a brief and practical guide tool to explain the importance of ESD promotion through a whole institution approach. The guide would outline what is needed to establish a strategy in each organization; how the long-term implementation of the strategy is ensured; how to generate consensus; and the key points regarding the importance of a whole institution approach at various levels. This could be achieved by asking countries to provide 2-3 examples of successful implementation strategies with references.

(e)   Develop a set of key competences for stakeholders implementing ESD through a whole institution approach.

(f)   Provide an accreditation scheme or a set of quality criteria for ESD implementation through a whole institution approach for formal, non-formal and informal sectors.

(g)   Include a specific section on whole institution approach in the next cycle of the national implementation reporting for countries.

III. Strand 2: Quality education and education for sustainable development

A. Introduction

24. "Priority should be given to … quality education, from early childhood through to higher education and adult education…. Moreover, efforts should be stepped up to integrate education on human rights and sustainable development as well as the SDGs in curricula at all levels of education, through existing and new programmes"[2] ('Europe moving towards a sustainable future' EU October 2018).

25. We are currently experiencing the highest levels of education amongst the global population and yet social injustice, economic inequalities, cultural erosion, environmental degradation, climate change and world food security issues are increasing. The implication is that our current education systems are not assisting with the transition towards a more sustainable world which the global community wants and needs. The issue for sustainable development is thus not simply just one of access to education but goes much further. Many experts have called for educational change and a focus on learning that improves quality of life whilst protecting people and planet. Sustainable Development Goal 4 (inclusive and equitable quality education) and specifically its target 4.7 (ESD and Global Citizenship Education) is most relevant to this movement.

26. Educational quality and standard processes provide a powerful and effective pathway for changing our learning systems. The intention would be to embed ESD into national education frameworks for quality standards, assurance and enhancement.

27. The aims of this strand are to: to advance future activities that can add value to the priorities of the ECE Steering Committee on ESD; assist the Steering Committee to regain its voice in dialogues regarding the future of ESD; as well as, make a unique contribution to advancing policy, decisions and systems change in support of the 2030 Agenda. Its objective is to promote the embedding of ESD into criteria and processes associated with the assessment and evaluation of quality in formal, further and higher education.

28. The proposal is to work with education quality professionals – quality assessors; quality agencies; school inspectors, accreditation bodies, peer assessors and curriculum reviewers - a group that is yet to engage with ESD or SDGs agendas. These stakeholders are rarely present in ESD policy dialogues but have significant responsibilities and are key agents in the system with the ability to change education policy and practice across the ECE region.

B. Definition for quality education

29. Education institutions have internal and external assessment mechanisms that assure quality of the educational experience and/or qualifications that are attained. There are qualified professionals that oversee this agenda in education and who work in pre-schools, schools, colleges and universities, government authorities or national agencies. They are trained to recognise good practice, support educational change and ensure equal opportunities across the educational systems they are responsible for. Most have not encountered ESD and have had limited engagement with SDGs but are committed to

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[2] Available at https://ec.europa.eu/info/sites/info/files/sdg_multi-stakeholder_platform_input_to_reflection_paper_sustainable_europe2030.pdf

improving learning and teaching experiences more broadly in education. This stakeholder group is of core interest to the proposed strand of work.

1. **Preschool, formal and further (or technical and vocational education and training) education**

30.   In most countries inspections are required by law providing independent assessment of standards of education and provide checks of the quality of the learning. External and independent assessments are usually undertaken periodically by authorities, at preschools, schools and colleges, to ensure standards are met and maintained. These inspections also provide information to parents, to promote improvement and sometimes hold schools to account for the public money they receive.

31.   In recent years, Inspectorates of Education across Europe have developed new inspection methods and modalities that fit a more decentralized education system. In such systems, schools and other service providers, operate in networks to provide develop and implement more localized school-to-school improvement models that align with peer learning rather than expert visits. At TVET level, some countries have also recently identified professional standards that recognize environmental concerns.

32.   The intention would be to embed ESD into both peer learning and expert visits associated with quality assurance and enhancement. The initiative would go beyond promoting standards to focus on the embedding of ESD themes and capabilities into learning as well as the management of education.

2. **Higher Education**

33.   Higher education also has independent national bodies that assess standards and quality in universities and colleges. It conducts quality assessment reviews, develops reference points and guidance for providers, and conducts or commissions research on relevant issues. Its system of quality also relies on peer review but has a more complex internal and external quality system as well as national quality codes which govern programme development, graduate attributes and learning outcomes and relationships with external quality bodies. Reviewers check that expectations set out in national quality codes or frameworks which are agreed and recognised by the higher education sector and relevant authorities. These assessments can in some countries be tied to degree awarding powers or the right to be called a university. Reports also include recommendations for improvement, citations of good practice, and affirmations of actions taken by the higher education provider to improve since the last review.

34.   The Quality Agencies generate resources used for benchmarks of academic standards include the 'subject benchmark statements' developed in consultation with the academic community relevant qualifications and credit frameworks, institutions' own rules and handbooks, standards set by professional bodies.

35.   The intention is to embed ESD into quality codes and frameworks, develop guidance so that quality could be assessed and where needed improved; generate subject specific benchmark statements or guidelines to support the integration of ESD into key subject or discipline areas. There are signs that suggest that this sector is ready to engage with ESD. Indeed, three pilot projects are cited later in the brief.

C. Achievements on quality education and education for sustainable development

36.   There are a handful of national initiatives that have brought together education for sustainable development and quality education concerns. If this strand of work is adopted by the Steering Committee, it is proposed that these efforts are considered in detail and that colleagues who led the work are invited to participate in an advisory capacity. Examples include:

        (a)   Making connections between the Institutional Evaluation and the Sustainable Development Goals: Empowering stakeholders for quality enhancement, the project carried out by the Quality Assurance Agency for Higher Education of Andorra (AQUA) together with its counterpart in Aragon, Spain (ACPUA), funded by the International Network for Quality Assurance Agencies in Higher Education (INQAAHE)[3].

        (b)   Leading Curriculum Change: Guide to Quality and Education for Sustainability in Higher Education, the project Led by the University of Gloucestershire, UK and funded by Higher Education Funding Council for England (HEFCE) and Quality Assurance Agency for Higher Education (QAA)[4].

D. Challenges on quality education and education for sustainable development

37.   Multiple challenges underpin this strand. Firstly, as with other strands, there is always the issue that ESD is misunderstood or superficially interpreted as the adding of thematic content into the existing curriculum. In reality, addressing ESD in formal, further and higher education requires revising the 'how' or pedagogical and assessment approaches, as well as the 'what' or content and learning outcomes. It also requires education institutions to model ESD in their management, practice and relationships with the community so that students have a lived experience in ESD. It is for this reason that the previous quality education initiatives outlined above devote much time to raising awareness and understanding of ESD and developing resources that define the scope and boundaries of this educational concern.

38.   The initiatives emerging from this strand of work of the Steering Committee will find it difficult to get traction with colleagues who interpret ESD as simply environmental oriented education. The more holistic and complex understanding needed to advance sustainable development sometimes escapes educational professionals who have not engaged in this line of work or a familiar with the SDGs. Bringing in the SDGs into the core any work progressed by this strand will be important.

39.   Another challenge is to ensure that the efforts promote a whole-institutional approach to ESD and engage those with learning, as well as those with management, responsibilities in the quality education sector. This means that initiatives must go beyond recruiting champions and seek to mainstream the thrust of this work. To achieve this will be a major challenge and require that the Steering Committee engages in high profile meetings, platforms and conferences to promote this work. It is recommended that a list of head of national quality agencies is developed and that a meeting is convened in Geneva to involve them in efforts from the start.

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[3] http://www.aqua.ad/estudis-i-projectes-de-millora#MAKING%20CONNECTIONS
[4] http://efsandquality.glos.ac.uk

40.   Finally, the biggest challenge is finance. These efforts will need funding and identifying a grant authority, a donor or several donors from the different components of this strand that will be vital to successfully attaining the outcomes outlined above.

E.   Activities, suggestions and actions that can be undertaken by the Steering Committee for the quality education and education for sustainable development strand until 2030

41.   This strand of work would seek the following outcomes:

(a)   The engagement of education quality professionals, systems and authorities in ESD dialogues.

(b)   The presence of ministries of education at the meetings of the Steering Committee and the strengthening of cooperation in ESD between the ministries of education, environment and other relevant ministries.

(c)   The carving of a unique and impactful ESD pathway that will assist the Steering Committee regain its voice in ESD international dialogues.

(d)   The embedding of ESD into education quality systems. The focus would be on the development of the following tools via a participatory process that creates ownership and embeds good practice:

(i)   Quality criteria frameworks for embedding ESD into each educational level - early childhood, schools, colleges (TVET) and universities;

(ii)   A benchmarking tool to assess practice;

(iii)   Learner attributes that are subject or discipline based and that are accompanied by guidelines for integrating ESD into learning experiences;

(iv)   An ESD/SDG professional development programme for education quality professionals, authorities and agencies as well as education managers and leaders.

42.   In some member states, quality professionals have recently lost what some believe is a vital connection with the public and are often under criticism from the broader education community for the lack of purposefulness. This initiative will also address this issue through seeking to build relevance and trust in the quality profession. It will engage the profession constructively with a major agenda that brings issues related to quality of life, employment and social engagement to the core of the education establishment.

43.   It is important to note that this strand of work would interpret ESD in the broadest sense to incorporate education sectors relevant to SDGs, such as global education, citizenship education, democratic education, human rights education, peace and non-violence education, gender education, cultural diversity education, as well as sustainable lifestyles education (SDG 4.7). This inclusive frame was seen as important to the success of this strand of work.

Partnerships

44.   Colleagues at the Hague meeting of the ad hoc group agreed that the Steering Committee should join forces with the United Nations Environment Programme (UNEP) and UNESCO in promoting this strand of work and invite the European Commission for collaboration on this agenda.

45.   Also, of interest are international agencies with responsibility for educational quality. For example, at the higher education level, the European Association for Quality

Assurance in Higher Education (ENQA) and the International Network for Quality Assurance Agencies (INAQAAHE) are pertinent. Both organisations bring together national agencies that are engaged in political decision-making processes associated with quality education. The intention is to form an alliance with stakeholder organisations that have a demonstrable interest in the quality assurance and enhancement of education.

IV. Strand 3: Digital education, information and communication technology and education for sustainable development

A. Introduction

46. For several years, the digital share has increased in all sectors of our society, especially in the education sector. Collaborative learning and information and communication technology (ICT) are increasingly recognized as effective approaches to transforming education into ESD, by complementing or reinforcing traditional approaches.

47. The traditional Web, based on static HTML pages, changed with the appearance of Web 1.0 technologies for generating Web content. Then, Web 2.0. developed a new technology, allowing learners to interact with others and with content.

48. In 2002, MIT's OpenCourseWare[5] created courses accessible via the Internet and the Creative Commons license has defined free access to their content. The ensuing Open Education movement combines good practices, tools, resources, and user interactions in a global framework. Indeed, ICT are an essential means of training and acquisition of new knowledge by allowing students, teachers, researchers, and, more widely, each person to benefit from the best possible education This is particularly true in the case of SD, whose reference to multiple themes and disciplinary fields requires a global and transversal approach that contrasts with the usual pedagogical methodologies. ICT and the digital approach are undoubtedly one of the main levers to encourage the emergence of new pedagogical practices facilitating access to the knowledge of everybody throughout life.

49. ICT and digital tools and resources offer everyone the opportunity to capitalize on knowledge and know-how. They also address the numerous challenges faced by many education systems, such as lack of teachers, lack of competence to ICT skills, lack of infrastructure or ICT access, and inadequate training of staff.

50. ICT then become a connection hub where formal and non-formal education and other ways of learning can work together to improve, strengthen, and enlarge the learner's itinerary and the teacher's experience.

B. Definition for digital education and information and communication technology

51. To enable education to deploy its transformative capabilities in the various programmes related to SD, we must engage the educational system in profound pedagogical and organizational transformations which require a strong mobilization of existing potentialities.

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[5] An initiative of the Massachusetts Institute of Technology (MIT) to publish all of the educational materials from its undergraduate– and graduate-level courses online, freely and openly available to anyone, anywhere.

52. This evolution of education related to ESD does not consist of identifying and comparing existing methods, but rather knowing how to optimize and change these methods through the contribution of new technologies that must apply to all fields of education. Digital technology represents a powerful lever of transformation to support an education policy in all its dimensions: for example, pedagogical transformation in the service of learning and evaluation, training in tomorrow's issues and professions, simplification of relations with users, and modernization operation with redesigned information systems. To this extent, the process of transformation must combine pedagogy, social context, institutional structure, and a digital approach. This definition leads to a digital transformation approach based on a comprehensive, cultural, and cross-field input from various layers, stakeholders, and fields into a harmonized strategy.

C. Achievements on digital education, information and communication technology and education for sustainable development

53. Digital education and ICT represent an essential component of the implementation of ESD, both in terms of strategy innovation, pedagogy renewal, teacher training, inclusive school development and partnerships with other actors of sustainable development.

1. Put digital at the heart of the ESD strategy

54. A wealth of data collected, stored and processed by a multitude of actors highlights the pedagogical benefits offered by digital data to rethink ESD for:

(a) The benefit of the learner who can thus have a personalized learning environment allowing him to access specific learning paths;

(b) The teacher who has the opportunity to develop new pedagogies and new resources while having a better knowledge of each of his students;

(c) The researchers in education and ESD who will better understand ESD and will thus be able to change practices;

55. The overall management of the education system changes through the statistical use of data to evaluate practices and models.

2. Innovative pedagogy of ESD through digital

56. Digital development for ESD should help to change teachers' practices by, for example, helping them to recommend content or resources, or assisting in the evaluation of learners. Students will have the opportunity to train, to self-assess, to participate in diagnoses based on resources adapted to their levels and / or their needs.

57. The possibilities offered by the DLT/blockchain technology in reference to the web 3.0, generate new opportunities for the updating and the valuation of open resources, while ensuring their traceability. This technology can provide a simplification of the database improvement and verification process, better accessibility, easy sharing and tracking the use of documents.

3. Support and strengthen the professional development of teachers through digital

58. Characterized by their diversity of supply and their organizational flexibility, digital tools are valuable for teacher training as they make it possible to widen the range of training courses, to make training times more flexible and to jointly provide training in and through digital technology.

59.   The development of students' digital skills requires that teachers have adequate training in these areas.

4.   Develop inclusive schools through digital technologies

60.   Digital technologies have a crucial role in providing educational resources to struggling students as they can facilitate the monitoring of their schooling. By proposing alternative means of access and use, the adaptations thus proposed benefit all students with or without disabilities.

5.   Strengthen partnership with local communities and businesses through digital

61.   Local authorities and the industrial sector are key partners in the digital strategy to innovate in ESD. Digital technology strengthens linkages with these partners by bringing ESD closer to real life situations. Collaborations with these partners make it possible to offer teachers and learners digital resources for professional and technological education.

D.   Challenges on digital education, information and communication technology and education for sustainable development

62.   Since the launch of the UN Decade for ESD (2005–2014), the triptych "Digital Education–ICT–ESD" has gone through two successive phases.

63.   The first phase puts ESD in the context of e-learning. This constitutes completing training face-to-face through distance learning that relies mainly on the use of digital tools: virtual classes, MOOCs, or interactive forums, are based on innovative teaching practices.

64.   The second phase places ESD in the context of digital learning through three approaches: (i) the transition from computers to digital media; (ii) the use of all tools for learning via instant messaging social networks to create a learning community; (iii) setting up an e-learning path in which learners appropriate knowledge through exchanges amongst them or with the teacher.

65.   In the case of ESD, these two phases are complementary and reflect a pedagogical desire, that of leading to mixed training (e.g. blended learning). The combination of different learning modalities and training devices allow learners to develop skills that go beyond knowledge or skills. However, several questions arise:

       (a)   How should we move from digital tools and new technologies to changes in behaviour or mentality specific to ESD?

The crucial point is to use these tools not for their fun, but for their ability to highlight our representations of SD. A flat use of social networks will entertain but not train the users. ICT must rely on a real educational model to associate with ESD, not with good practices, but with a rigorous scientific framework open to society and its values. The project approach involving ICT and personal investment must play an important role.

       (b)   How should we develop a structuring and integrative framework to address issues of education, communication and learning?

The mobilization of communication sciences allows for better definition of the issues: What is sustainable communication? What kind of learning processes? What is the role for a trainer in this configuration? If its interdisciplinary side of sustainable development is obvious, it remains to invent what we call "sustainability sciences". Therefore, the teacher and the academic programme will not be subject-oriented or restrained, but transversally harmonized.

(c)   How will the institutions that today have the guarantors of knowledge and its diffusion integrate the more frequent use of new technologies?

In the future, it seems necessary to engage ESD in several ways: (i) support innovative projects proposed by trainers; (ii) offer ICT training and modules for learners and teachers; (iii) integrate these actions into a skills framework that would be enhanced by diplomas; (iv) integrate disciplines and components that are too often absent in ESD; (v) develop tools that fit into a lifelong learning path; (vi) rely on these tools to adapt the methods of checking knowledge; and (vii) establish a fluent multilateral dialogue with the stakeholders, including policymakers.

(d)   How can the ECE play the role of facilitator in this connection between the world of education and that of the ICT?

The relations between these two worlds are sometimes chaotic. Education is in the form of a model of socialization, which supposes a more or less long process of learning, when ICT refer to snapshot news, playful and networked practices. In the case of ESD, the most appropriate prescription would be the strengthening of skills via capacity building projects like those initiated by the European Commission. However, these programmes should include an institutional component (e.g., a rectorate, ministry of education) in order to institutionalize ESD.

E.   Activities, suggestions and actions that can be undertaken by the Steering Committee for the digital education, information and communication technology and education for sustainable development strand until 2030

66.   ESD learning objectives can be summarized as cross-cutting key competencies for sustainability that are relevant to all SDGs. Achieving these objectives requires acquisition, in addition to basic knowledge, of a range of skills such as critical thinking, normative and strategic competencies, collaboration, self-awareness, problem solving, etc.

67.   Facing the challenge, ICT has a range of potential applications which facilitate innovative pedagogies for ESD learning. In this perspective, several axes of reflection and action can be envisaged:

(a)   Develop digital resources and tools to strengthen the actual potential for ICT to combine formal, non-formal and informal learning and to highlight the impact of ICT into the current educational scenario

(b)   Generalize blended learning that combines face-to-face training, conducive to interactions between learners and trainers, and e-learning, which is an effective way to train through effective models of immersive learning.

(c)   Apply Learning Analytics to the ESD to measure, collect, analyze, and process related data to learners and their environments in order to understand and optimize learning and the conditions under which it occurs.

(d)   Develop social network as a key tool, being aware that these social networks are completely useless without an educational purpose, and a sensible integration in a framework, strategy or itinerary.

V. Strand 4: Entrepreneurship, employment, innovation and education for sustainable development

A. Introduction

68.	In the 21st Century, our world is experiencing rapid change with global challenges becoming ever more complex. In this context, the support for, and empowerment of, youth is more important than ever.

69.	ESD is needed to prepare young people to respond to this changing world, to motivate them to work towards solutions and to co-create more sustainable futures.

70.	For that, as SDG 4.7 points out, young people need to acquire knowledge and skills needed to promote sustainable development. To enable a change in education for sustainability, it is necessary to strengthen partnerships and coordination between governments, civil society, business sector and youth themselves.

71.	The present proposal seeks to inform and promote the European Union Council Recommendation of 22 May 2018 on key competences for lifelong learning (Text with EEA relevance) (2018/C 189/01).

72.	This would provide opportunities for people to introduce and improve the Entrepreneurship competence which refers to the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative and perseverance and the ability to work collaboratively in order to plan and manage projects that are of cultural, social or financial value.

B. Definition for entrepreneurship and innovation

73.	Entrepreneurship is held to promote wealth creation through innovation. Innovation and entrepreneurship can be seen as both a process and the corresponding outcome. It was emphasised that the concepts of change, innovation and creativity have been largely ignored by entrepreneurship researchers and vice versa, although, in their view they are integral components of entrepreneurship and a basic requirement for entrepreneurship research to become a more important management research field[6].

C. Achievements on entrepreneurship, employment, innovation and education for sustainable development

1. Learner competences for the 21st century

74.	Learners' competences for the future are defined as the 21st century skills that enable young learners to adopt sustainable lifestyles; to make informed decisions and choices and be responsible for their actions. In recent years there have been multiple initiatives to define what skills and competencies are necessary for youth to thrive. However, there is a need to translate definitions into practical frameworks and for guidance how they could be implemented. Scholars agree that the development of national frameworks containing clear-cut definitions of 21st century competences and addressing

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[6] Alexander Brem, Linking innovation and entrepreneurship - Literature overview and introduction of a process-oriented framework, https://www.researchgate.net/publication/234061000

strategies to support and regulate its implementation and assessment are needed. They should be able to constantly learn, develop their knowledge about "green" and ICT technologies, enable the exchange of experiences, techniques and tools, build capacity and develop new skills for the new generation of graduates and, finally, make effective, environmentally friendly decisions in the future.

2. An active engagement of youth in learning and society

75. ESD is about preparing the learner for an active role in society oriented towards sustainability. In a context of active citizenship in society a key point of ESD is to develop a deep understanding of which sustainability issues are at stake, now and in the future. Sustainability issues are characterised by complexity and uncertainty, and as a result ESD needs to evolve itself in order to be able to provide skills and competences that enable to cope with this complexity and uncertainty. To deal with future sustainability issues, societies need to become flexible, adaptive and resilient.

3. This proposal promotes five key areas for the active engagement of youth:

Innovation and entrepreneurship

76. Youth entrepreneurship must be recognised as a key factor in economic development in the next period and a means of improving wellbeing, preventing brain drain and tackling unemployment. Students need to experience what it would be like to run a business, increase confidence and think about business ideas or starting their own business in according to SDGs and green technologies. It helps youth to develop skills such as critical thinking, problem solving, creativity, planning and organization.

77. There is a common definition of innovation in the OECD's Oslo manual[7]: An 'innovation' is the implementation of a new or significantly improved product (goods or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. It involves a change that creates new conditions for economic activity, either for individual companies, on a market or globally. There are four descriptions of entrepreneurship that have become dominant in the research: the entrepreneur as an innovator (Schumpeter), as an arbitrager/creator of balance, as a bearer of uncertainty (Frank Knight), and the entrepreneur as a coordinator (Jean-Baptiste Say). Schumpeter's innovator is the definition that makes the most distinct connection between entrepreneurship, innovations and economic growth.

Youth and research and innovations

78. It is critically important to engage youth in research, innovations exchange and support their innovative ideas in business. Today there are many activities supported various innovative research clusters and project incubators, which enable students and young professionals to think creatively. Young entrepreneurs could be encouraged to undertake science to benefit society, perhaps in the areas of economy, environment, water and agriculture. This promotes deployment and application of innovative environmental policies, approaches and techniques.

Vocational skills training and entrepreneurship

79. ESD and TVET play a great role in development of Youth' skills and competences demanded by market. What our young people do today will create the foundations for what

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[7] http://www.oecd.org/science/oslo-manual-2018-9789264304604-en.htm

our economies will do tomorrow. Youth have difficulties in the labour market because of lack of work relevant skills, lack of information and connections for acquiring appropriate skills. Vocational skills training and entrepreneurship interventions aim at developing equitable hands on skills and entrepreneurial skills that can ensure equitable access to labour market which are directly linked with gainful employment opportunities for underprivileged youth.

Entrepreneurship and entrepreneurs

80.   The entrepreneurship plays an important role of in economy and society. In a highly interconnected world, building a culture that supports entrepreneurship and equipping young people with entrepreneurial mind sets and competences is crucial for the job creation and economic growth. Entrepreneurship as a competence applies to all spheres of life. It enables citizens to nurture their personal development, to actively contribute to social development, to enter the job market as employee or as self-employed, and to start-up or scale-up ventures which may have a cultural, social or commercial motive.

Conceptual linkage between innovation and entrepreneurship

81.   Entrepreneurship and innovation are two common concepts in the political discussion and are often mentioned as conditions for economic growth and sustainable development. Entrepreneurship is held to promote wealth creation through innovation. Innovation and entrepreneurship can be seen as both a process and the corresponding outcome. The concepts of change, innovation and creativity are integral components of entrepreneurship and a basic requirement for entrepreneurship research to become a more important management research field.

D. Challenges on entrepreneurship, employment, innovation and education for sustainable development

1. Global challenges in education

82.   Present and future global complexities mean that all learners must be equipped throughout their lives to navigate unexpected challenges. Whereas there has been very rapid technological change over the last 30 years, education systems in many states have remained largely unchanged over the last century. New technologies and innovations can be disruptive, but they also offer exciting opportunities to enhance the delivery of these skills and values. An important challenge is that such education and learning need to be delivered effectively and appropriately, taking account of different contextual conditions and demands, and without causing or reinforcing societal harms such as increasing inequality and conflict. It is also important that it delivers first for the most disadvantaged, taking especial note of gender, disability, age, ethnicity and other such potential axes of disadvantage.

83.   An additional key challenge facing committed or applied research for ESD is a disconnect between the range of key actors and agencies and often poorly integrated roles that they perform. Even when academics, teachers, students, community representatives, companies and other stakeholders conform to a common vision about the future, the specific responsibilities and restrictions of their roles can mitigate against an adaptive transition that draws upon and generates, social learning.

2. Unemployment and education

84.   The study of entrepreneurship is still in its infancy. Barriers to evolutionary advances in entrepreneurship include the field's uneven development, its lack of

consistency of terminology or method, and its relative isolation from developments in key informing fields. Young people worldwide are more likely to work longer hours under informal, intermittent and insecure work arrangements, characterized by low productivity, meagre earnings and reduced labour protection. In developing countries, young people, especially young women, make up the bulk of the underemployed and working poor in the informal economy in both rural and urban areas. Self-employment is often a survival strategy to generate some income for subsistence.

E. Activities, suggestions and actions that can be undertaken by the Steering Committee for the entrepreneurship, employment, innovation and education for sustainable development strand until 2030

1. To provide a guiding framework for 21st century competences

(a) Operational definition for the 21st century competences, which would allow for better planning and assessment of those across age levels and subjects.

(b) Clear identification between core subjects and 21st century competences.

(c) Compile information of publicly accessible tools to support entrepreneurship, employment and innovation and ESD (Digital Competence Framework for citizens (DigComp) and the Entrepreneurship Competence Framework (EntreComp), sharing of reports like the Global Entrepreneurship Monitor report, etc.).

(i) Recommendations for educational staff (managers, teachers, support staff) on how to nurture sustainable entrepreneurial mindsets in their students.

(ii) Recommendations for government - what can decision-makers do to support youth sustainable entrepreneurship.

2. Representation at the Steering Committee meetings

85. It is crucial for youth to become agents of change. They should have a greater say in decision-making in issues that directly affect them. ECE Steering Committee on ESD could become a pioneer in opening up the discussion so that the voices of youth representatives could be heard. This could take various forms - having youth delegates present and actively taking part in the meetings of the Steering Committee, national focal points should be expected to consult with youth representatives, etc.

3. Share the good practice initiatives by:

(a) Creating digital platforms with Role Model;

(b) Improving and regularly updating ECE website;

(c) Sharing educational guidelines for the students, teachers, schools, universities, etc.;

(d) Bringing the good practice initiative to a higher level;

(e) Organizing conference, competition, exchanging programs, etc. for youth;

(f) Investigating the potential of the scorecard to be used as quality framework for training providers;

(g) Organizing webinars to support dialogue and the dissemination and development of project experiences and outcomes.

4. Vocational education and training and the green economy

86.   Preparing teachers of vocational education system for work with graduates to meet challenges of market, green economy, green jobs and development new skills and competences for SD is important for which concrete policy recommendations for educational systems and capacity building activities with more emphasis to teachers' qualification raising is essential.

87.   The most important is to bridge the gap between the world of learning and the world of work through vocational training and hands on learning systems to ensure that training and local opportunities are complementary. Young people have a great deal to offer their societies and Involvement of youth in environmental protection efforts can foster changes at household level as well as at community level.

5. Digital skills for the future

88.   The Europe 2020 Strategy aims to create the conditions for smart, sustainable and inclusive growth. One of the areas it targets is education. Each of the areas is changing fast through the digitalisation of our society. People need digital competence to be able to participate and benefit from digital opportunities - but also to mitigate possible risks. This is clearly a challenge that must be addressed today. Almost half (44.5%) of the EU population aged between 16 and 74 has insufficient digital skills, as demonstrated by the EU-wide Digital Economy and Society Index (DESI) indicator on "digital skills", based on 2015 Eurostat data.