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Strand 3 : Digital education, ICT and ESD

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Digital education, ICT and ESD
Policy framework

The place of digital technology (DT) has increased rapidly over the past decades with the development of tools and applications that have caused profound transformations, in particular by modifying our relation to knowledge.

These transformations have manifested themselves in various forms but it appears that in the pre-Covid situation we were far from a generalized use of DT in education because, whatever the devices implemented :

- insufficient computer equipment,
- insufficiently trained teachers in the use of DT,
- limited number of quality digital resources.

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Assessment and context

The Covid 19 pandemic has caused the closure of educational establishments and confined a large number of learners (around 1.5 billion).

This has led to urgently develop distance education in a variety of ways that have highlighted multiple obstacles as described above without forgetting the difficulty of managing teachers and learners in a context of strong social, emotional and behavioral dimensions.

This underlined the need to define an integrated DT to generalize the processes of access to science, technology and innovation, particularly with regard to ESD.

This digital ambition, which must mobilize all stakeholders, involves an evaluation of current educational processes, better training of educators, and improved relations with users, by modernizing operations with redesigned information systems, without forgetting a necessary forward-looking approach.

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Vision and objectives

The learning objectives of ESD can be summarized as "acquisition of transversal key competences for sustainability considering all 17 SDGs". To achieve these goals, the learner must acquire basic knowledge and a range of competences (critical thinking, normative and strategic skills, collaboration, self-awareness, problem solving, etc.) .

Faced with this challenge, ICT, and all digital methods, benefit from a wide range of applications that promote innovative pedagogies for ESD.

This strategy should make it possible to implement, within the framework of UNECE's 2021-2030 strategy, mechanisms capable of building resilient ESD structures to ensure that ESD learning continues in digital form and gives everyone the feeling that we are acting together for the establishment of a more sustainable society.

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Expected outcomes : a 9-point strategy (1)

1. *Systematize the use of digital tools* to strengthen the potential of ICTs by combining formal, non-formal and informal learning and to highlight their impact in an educational scenario. This combination will encourage a better synergy between learners, teachers and society.
2. *Mainstream e-learning and blended learning* combining face-to-face training, conducive to interactions between learners/trainers, and e-learning, which is an effective way to train using immersive learning models.
3. *Strengthen the production of and access to OER*, a key factor to facilitate ESD, especially for education and technical/vocational training.
4. *Apply Learning Analytics* and other AI techniques to collect, analyze and process data associated with learners and their environment, in order to optimize learning and the conditions under which it occurs.
5. *Develop social networks* as a key instrument, knowing that these social networks are totally useless without an educational goal and without a judicious integration into a framework, a strategy or a learning path.

Expected outcomes : a 9-point strategy (2)

6. Integrate an Open Science framework, as well as a practical implementation plan, allowing the use, creation and sharing of open educational resources and good practices at all levels of training
7. Identify new qualifications and skills in the field of SD in order to integrate them into professional profiles and facilitate effective integration of learners, both in initial and continuing training, in particular in cooperation with UNEVOC-TVET (cf. BILT program).
8. Media education to help young and adults acquire and develop the capacity to understand and analyze, with a critical sense, media content and to communicate in diverse contexts.
9. Combat illectronism in order to help those who do not have the keys to the use of electronic resources in accessing, manipulating or understanding digital information.