

EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

INTRODUCTION AND OVERVIEW

Sustainable development and the achievement of the 17 UN sustainable development goals (SDGs) by 2030 are key international and national priorities.



The key sustainable development goal for education is **SDG4 Quality Education**. It states: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UN, n.d.).

Education for sustainable development (ESD) is seen as the means of achieving SDG4 and supporting the achievement of the other 16 SDGs. UNESCO (2017) provides general guidance on how to use ESD to achieve the SDGs. Eight key competencies are seen as essential to ESD and to transforming society. The eight competencies are:

- Systems thinking competency
- Anticipatory competency
- Normative competency
- Strategic competency
- Collaborative competency
- Critical thinking competency
- Self-awareness competency
- Integrated problem-solving competency

The competencies lead to the development of learning outcomes that support the achievement of the SDGs. UNESCO argues that participatory teaching and learning methods empower learners to take

action for sustainable development. Assessing the outcomes of ESD is identified as an important challenge (pp. 56-57).

EMBEDDING ESD INTO TEACHING AND LEARNING AT UCD

It is highly likely that faculty and staff may already be embedding some ESD competencies in their teaching and learning. The table below expands upon the eight ESD competencies and provides links to existing T&L resources at UCD which either serve as (a) an exemplar that demonstrates the competency or (b) provides scaffolding for assessing the competency in practice.

ESD competency	With this competency a student can:	Learning and assessment resources to assist
Systems thinking competency	Deal with uncertainty within systems	Lo-Fi(Delity) Simulations of Dynamics for Hi-Fi(Delity) Understanding
Anticipatory competency	Understand and evaluate multiple outcomes	Paper Tower Challenge
Normative competency	Understand and reflect on the norms and values that underlie their actions	Intercultural Development Programme (ICD) How can I design my curriculum to promote intercultural learning?
Strategic competency	Develop and implement innovative actions that further sustainable development	Cross-disciplinary Student Creation of 3D Learning Resources in Anatomy Turning a Traditional Teaching Setting into a Feedback-rich Environment
Collaborative competency	Understand and respect the needs, perspectives and actions of others	Enhancing Performance Through a Competitive Team Tournament Peer Review/Assessment Tool: peerScholar
Critical thinking competency	Take a position in the sustainable development discourse	Augmented Reality (AR) - Enhanced Multimedia Business Case Study Teaching One Minute Paper
Self-awareness competency	Reflect on their values, perceptions and actions	Development of Self-Assessment Tool Living Multilingually: Online Tools for Empowering Language Learners in Transition

Integrated problem-solving competency	Use appropriate competencies to solve problems	Resources for Experimental Learning of the Disability Environment for a New Module The Use of Concept Maps for Assessment
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PEDAGOGIES AND LEARNING ENVIRONMENTS THAT SUPPORT ESD

The key ESD competencies for learners outlined in the table above are seen as essential to ESD and to transforming society. With this said, developing appropriate learning outcomes (objectives), topics and pedagogical approaches/learning activities for each of the SDGs are suggested. UNESCO argues that learning outcomes and key competencies have to develop in tandem to achieve all the SDGs (2017, p. 11). It argues that ESD should be integrated into curricula (p. 49) and that curricula should change and develop to include more ESD relevant content and learning (p. 50).

Pedagogical approaches to ESD, such as learner-centred, action-oriented and transformative pedagogies, are identified (pp. 54-55). Sterling (2013, p. 38) provides a thorough list of appropriate pedagogies. UNESCO (2017) argues that participatory teaching and learning methods empower learners to take action for sustainable development. Assessing the outcomes of ESD is identified as an important challenge (pp. 56-57).

ESD is seen as enabling learners to develop the competencies to work towards a sustainable future (Government of Ireland, 2022a, p. 5). One of the key principles of teaching and learning ESD is to 'Promote and use a variety of pedagogical techniques that support active and participatory learning, critical thinking and the development of key dispositions and skills. (Government of Ireland, 2022a, p. 7).

Across the UK and Ireland sustainability in universities is supported by [the Environmental Association for Universities and Colleges](#) (EAUC), of which UCD is a member. It believes that education can transform lives and communities and that students should have access to sustainability education (EAUC, 2022a). It supports the [Sustainability Exchange](#) (EAUC, 2022b) a resource for sustainability in education, including learning and teaching (EAUC, 2022c).

Further advice and guidance on ESD has been developed by both AdvanceHE (2020) and the UK Quality Assurance Agency for Higher Education (QAA, 2021). In 2021 they issued comprehensive guidance on ESD for UK higher education (QAA and AdvanceHE, 2021). The guidance (2021, pp. 32-35) argues that the constructive alignment of teaching, learning and assessment with ESD competencies and learning outcomes will enable the educational transformation needed to achieve the SDGs. It argues for an assessment strategy that encompasses assessment of/for/as learning and references the [NFTL 2016-2018 Enhancement Theme](#). It suggests a key role for formative assessment and identifies synoptic assessment as an appropriate approach for ESD (2021, pp. 35, Figure 3).

ESD AT UCD

UCD is committed to sustainability and 'to creating a sustainable global society', the first theme in the current UCD Strategic Plan (2020a, p. 11). This theme reflects UCD's long commitment to

sustainability, recognises UCD staff's work on the SDGs and commits to embedding the principles of a sustainable society in UCD. This commitment is evident in the UCD Green Campus and its membership of EAUC.

In education terms, there is a commitment to interdisciplinary programmes to enable the development of a sustainable society (UCD, 2020a, p. 7). The complementary Education and Student Success Strategy (UCD, 2020c) has a clear focus on a student-centred educational experience to enable students and graduates to contribute to society (p. 8) and aims for an education that connects, inspires and transforms (p. 10). You are encouraged to review the [UCD First Sustainability Report \(2020b\)](#) which explores sustainability across UCD and can provide further context for ESD at UCD.

If you are interested in learning more about embedding ESD competencies into your curriculum or engaging in wider ESD projects, you are very welcome to contact a T&L staff member to initiate a consultation teachingandlearning@ucd.ie.

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RESOURCES

The following academic journals are useful resources for literature related to ESD: [Sustainability](#), [The Journal of Environmental Education](#), [Environmental Education Research](#), [Sustainability Science](#) and the [International Journal of Sustainability in Higher Education](#).

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