

A Dynamic Pan-Disciplinary Framework for Integrating Concepts of Sustainability across the Curricula



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NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING
AND LEARNING IN HIGHER EDUCATION

HEA

HIGHER EDUCATION AUTHORITY
AN tÚDARÁS um ARD-OIDEACHAS

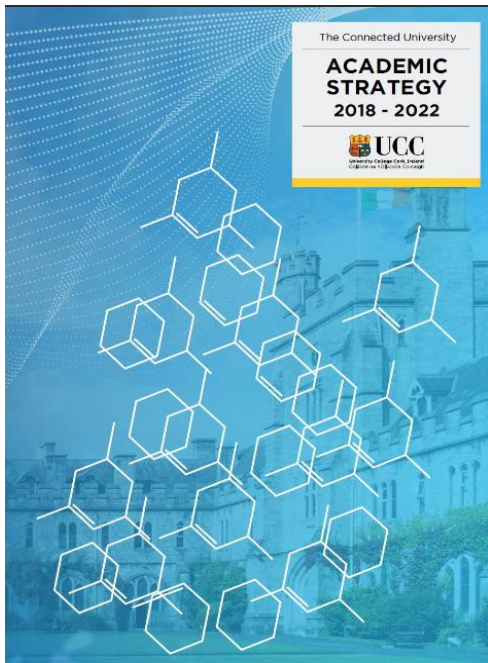


UCC

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

A TRADITION OF
INDEPENDENT
THINKING

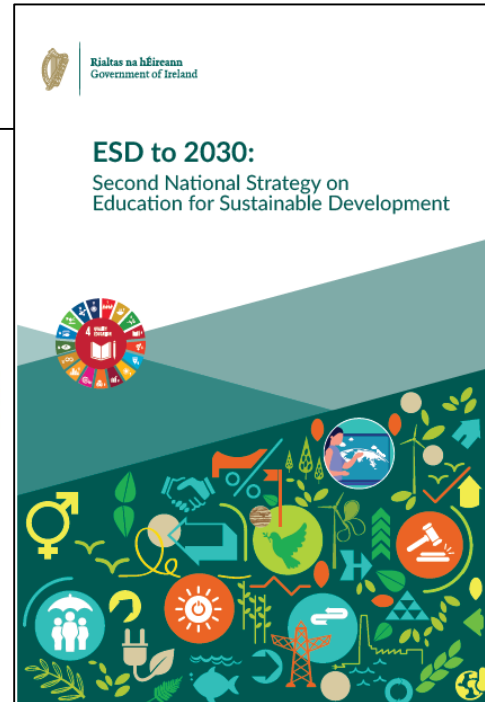
Enabling Strategy Frameworks



UCC 2022
Delivering a Connected University



December 1st 2020



Strasbourg, 18.1.2022
COM(2022) 16 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on a European strategy for universities

{SWD(2022) 6 final}





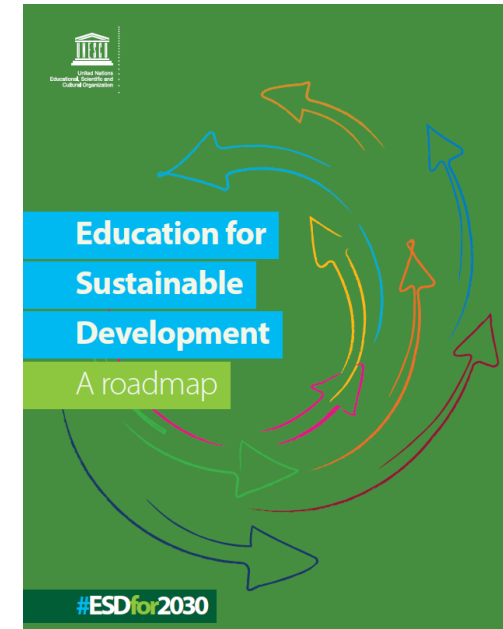
The Berlin Declaration on ESD



UNESCO World Conference
on Education for Sustainable Development

Learn for our planet. Act for sustainability.

#ESDfor2030



Preamble (5). We welcome the new 'ESD for 2030' framework and its Roadmap for implementation as our guiding documents for the next 10 years to mobilize action on ESD in the areas of policy, transforming learning environments, **capacity development of educators**, youth empowerment, and local level action.

Commitments (g): Also recognize the crucial role of teachers to promote ESD and **invest in the capacity development of teachers and other education personnel at all levels** and to ensure a whole-of-sector approach to the necessary transformation of education

SDG Toolkit Project Mission:

**To create and curate
resources for teaching
staff to integrate
sustainability concepts
into student learning to
support the UCC
Academic Strategy.**

**Pan-disciplinary
framework for all levels of
prior engagement**



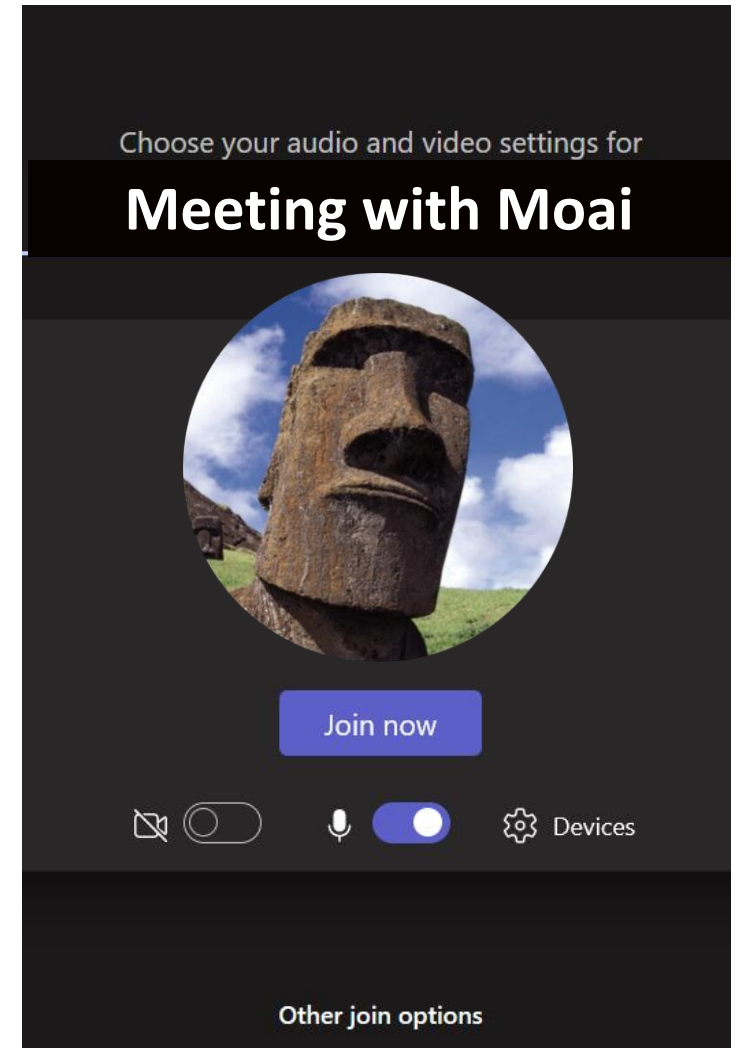
SDG Toolkit: A Co-Creative Approach

Teaching Staff (40+, various disciplines)

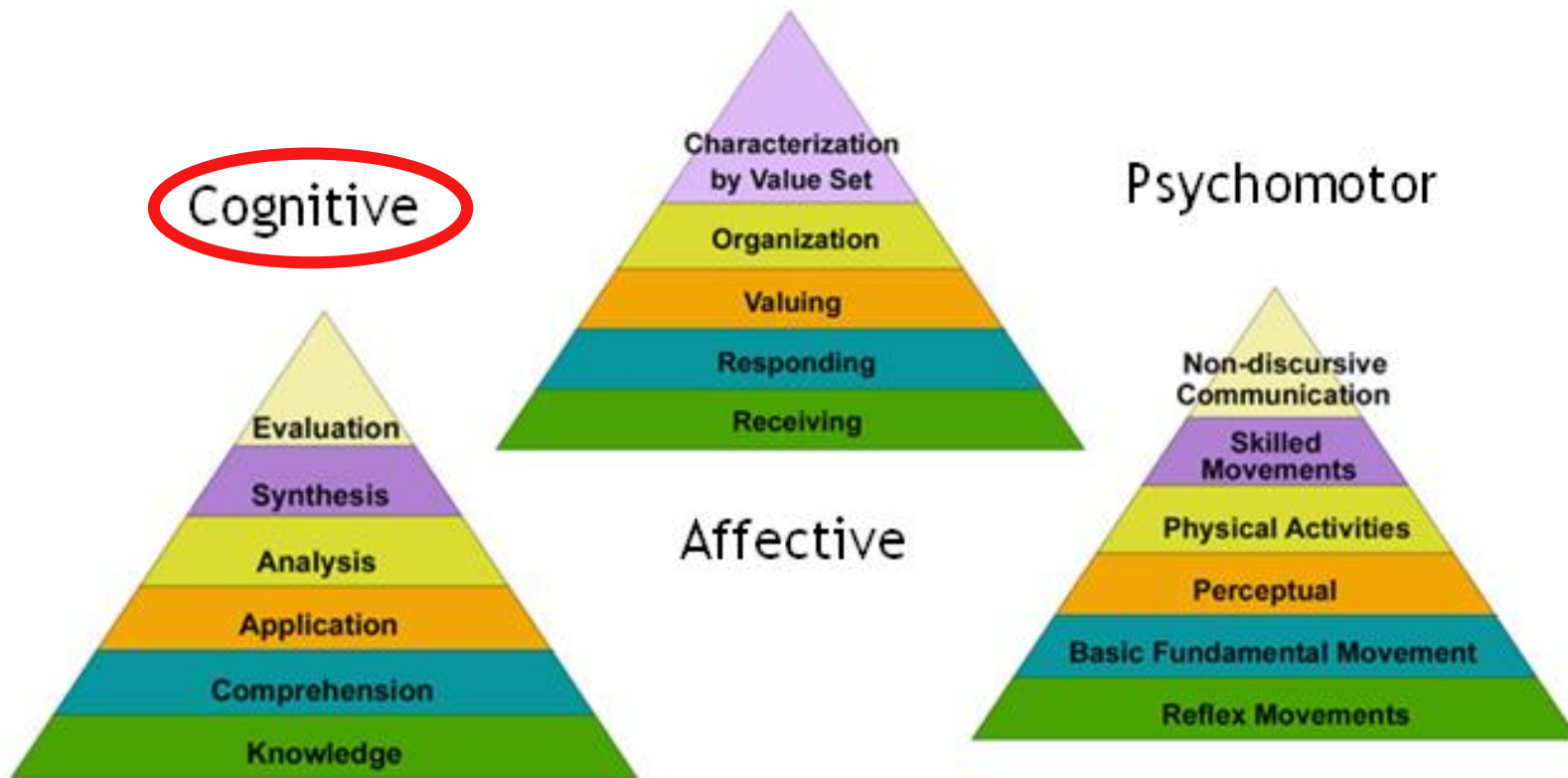
- Many indirectly addressing SDGs
 - Ease of use, non-prescriptive, local focus
 - Short videos, background, case studies, databases, group projects ideas
-

Students (25+)

- Practical, genuine, real world
- Group projects - climate change and ecocide
- Learning artefacts, videos (<5 min), Tik Tok

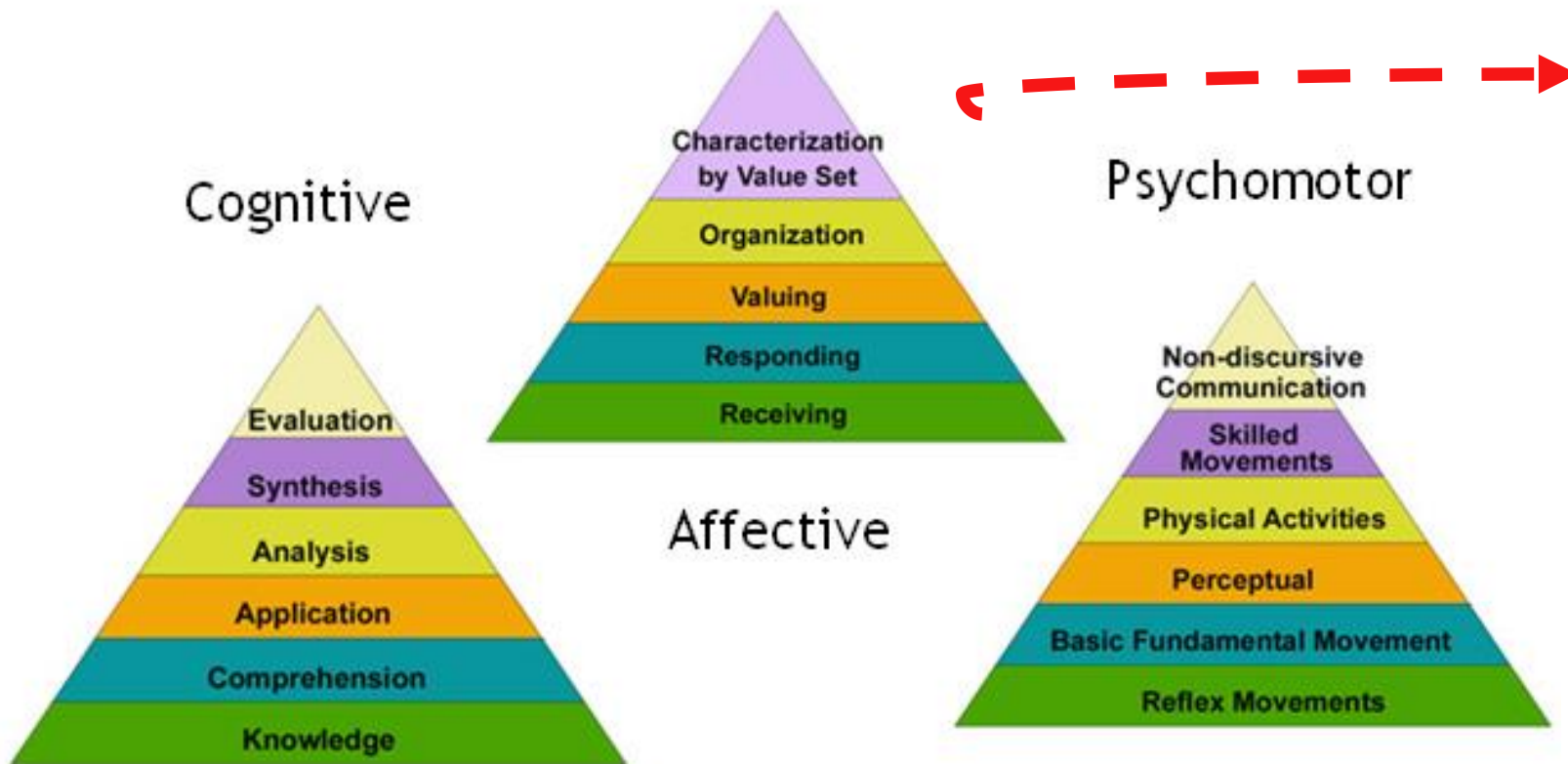


A Holistic Approach to ESD

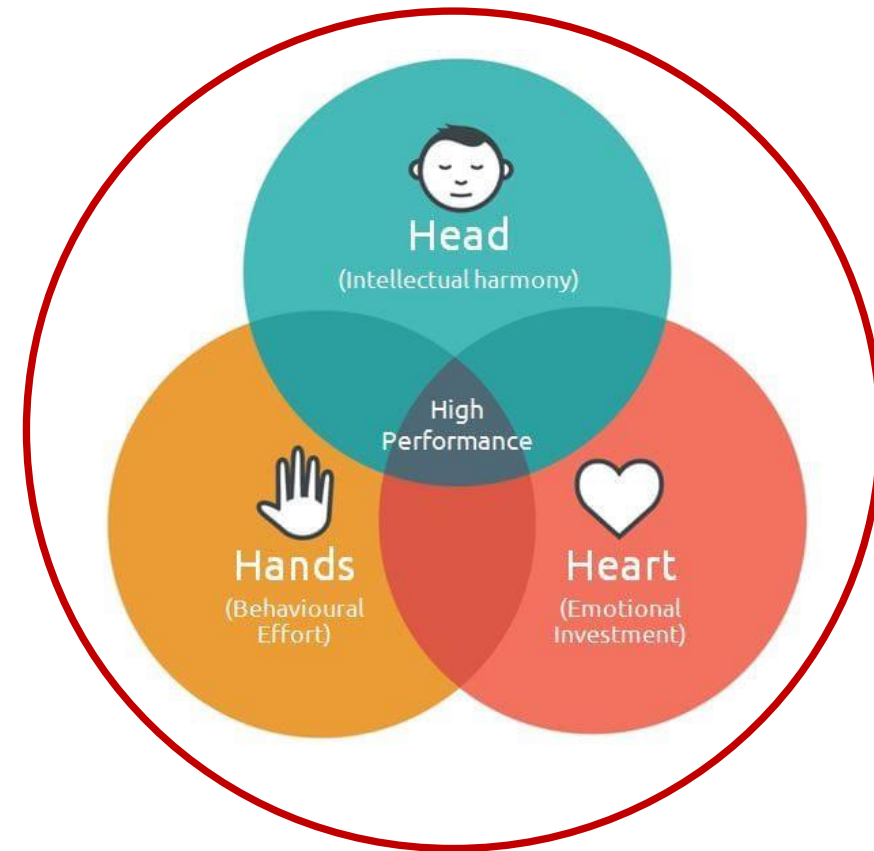


Three Domains of Bloom's Taxonomy

A Holistic Approach to ESD



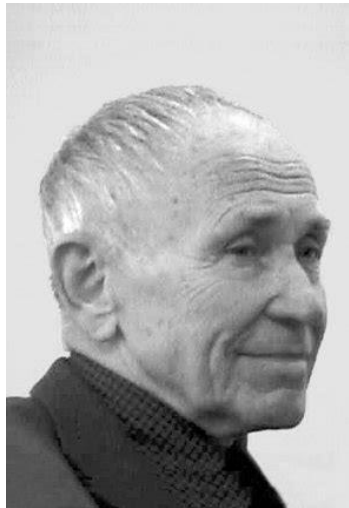
Three Domains of Bloom's Taxonomy



Transformative Sustainability Learning
Sipos, Y., Battisti, B., & Grimm, K. (2008)

Transformative Sustainability Learning

- “Empower individuals by encouraging them to critique status-quo values and social norms and to adopt sustainable principles and ethics by addressing unsustainable practices” (Aboytes and Barth, 2019)
- Based on Transformative Learning (Mezirow, 1998 & 2003)



- Disorienting dilemma
- Critical reflection on assumptions, beliefs and values
- Reflective discourse (free & full discourse)
- Revise assumptions
- New outlook → Taking action

SDG Toolkit Launched November of 2021

<https://www.ucc.ie/en/sdg-toolkit/>


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About the SDGs

- [What are the SDGs?](#)
- [Overview of the SDGs](#)
- [Attributes of the SDGs](#)
- [Three Pillars of the SDGs](#)
- [The SDGs, Targets, and Indicators](#)
- [SDG Resources](#)

What are the SDGs?

The United Nations Sustainable Development Goals (SDGs) are embedded within the UN's 2030 Agenda.¹ This is an ambitious 15-year strategic vision with a blueprint for peace and prosperity and the partnerships needed for people and the planet (5-Ps) for the present without compromising the ability of future generations to meet their own needs. The UN's transformative vision calls for a just, equitable, tolerant, open, and socially inclusive world in which the needs of the most vulnerable are met and no one is left behind.




PEOPLE
End poverty and hunger in all forms and ensure dignity and equality

PLANET
Protect our planet's natural resources and climate for future generations

PROSPERITY
Ensure prosperous and fulfilling lives in harmony with nature

PARTNERSHIP
Implement the agenda through a solid global partnership

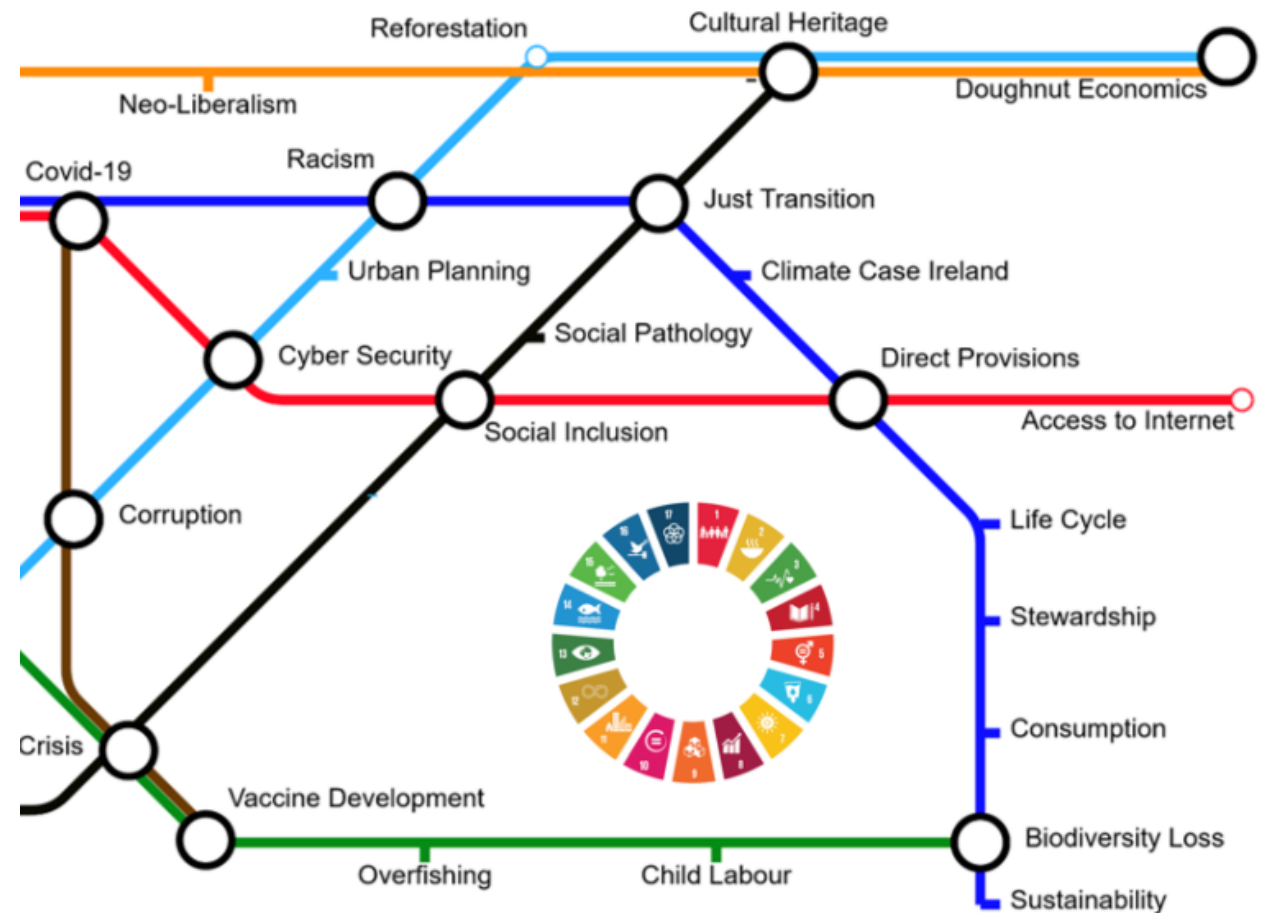
PEACE
Foster peaceful, just and inclusive societies



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Realizing Connections to the SDGs

- Mapping Your Module to the SDGs
- Mapping a Course of Study to the SDGs
- Students Mapping Their Module to the SDGs
- Mapping Your Research to the SDGs








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Once SDG Connections Are Realized

<https://www.ucc.ie/en/sdg-toolkit/teaching/>

Home > Research Centres, Institutes and Projects > SDG Toolkit > Bring the SDGs into Your Teaching

SAVE TO FAVOURITES 

SHARE    

Bring the SDGs into Your Teaching

- [Broad Overview](#)
- [Disciplinary Linkages with the SDGs](#)
- [SDG Tools & Resources](#)
- [Learning and Teaching Approaches](#)
- [Additional Tools for Teaching and Learning Enhancement](#)
- [References](#)

Broad Overview

The UN Sustainable Development Goals (SDGs) can provide a useful lens for aligning content in your module or programme with broader societal challenges. As a lens, the SDGs can enable teaching staff to:

- Demonstrate ways to advance sustainability from a discipline
- Frame inter- and transdisciplinary discussions
- Highlight issues of local and regional concern
- Connect the curriculum to global issues and expand students' world views

Global challenges such as climate change, mass human migration or biodiversity loss connect with a number of SDG targets which demonstrates the need for inter or transdisciplinary responses. The SDGs provide a common language and an action-oriented framework to bridge the gaps between academic disciplines and create partnerships amongst governments, business sectors and educational institutions. SDG Target 4.7 perhaps best articulates the role of teaching staff with regards to Education for Sustainable Development (ESD):

By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, 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.

In the Irish context, culture has been proposed as a fourth pillar for ESD along with environment, society and economy since culture can be viewed as a key enabler for effective societal transitions¹.

Disciplinary Linkages with the SDGs

Disciplinary expertise is critically important for creating new knowledge and innovations needed to advance the SDGs and overarching [2030 Agenda for Sustainable Development](#). Direct linkages can be made between specific SDG

Curriculum (Re)Design with the Toolkit

<https://www.ucc.ie/en/sdg-toolkit/>

A Deeper Dive: Curriculum Design

The following sections provide a series of design prompts to help you consider how to design learning to integrate the SDGs.

As you reflect upon your curriculum, it is helpful to consider the 6 Learning Types¹¹ of acquisition, inquiry, discussion, practice, collaboration, and production, and to examine the extent to which learners engage in these during a module as they begin to develop and integrate concepts and practices. Acquisition is necessary for students to find inroads into their discipline. Student understanding can be greatly enhanced through the sequencing of other active-learning approaches such as discussion, collaboration and inquiry, culminating in the production of a learning artefact demonstrating their understanding.

These activities can be supported or modified to suit different learning environments and spaces including online learning. The following figure suggests some digital tools which can support these activities (Fig. 2). You may need to consult with your IT department to determine which are supported by your institution.

Fig. 2. The 6 Learning Types of acquisition, inquiry, discussion, practice, collaboration, and production are presented as wedges in the circle along with the digital resources that can be utilized to support an effective array of potential student learning experiences. Learning management systems such as Canvas, Moodle, Blackboard and D2L are placed at the centre of the circle since they can be utilized to support all 6 Learning Types.

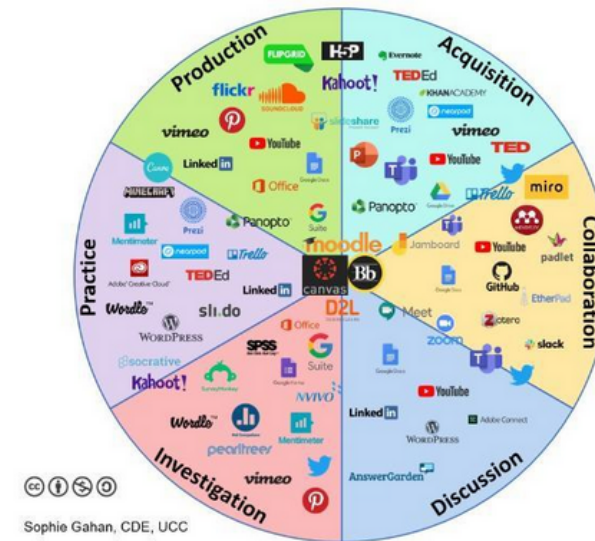
Learning Outcomes and Competences

A key goal of education for sustainable development is to achieve transformative sustainability learning (TSL). This is a departure from typical teaching and learning in Higher Education which tends to privilege cognitive development. While cognitive learning is highly regarded for developing reasoning skills and critical thinking, it neglects ethical values or the action-based psychomotor experiences which TSL views as critical for holistic human development. The head, hands, and heart model¹² was thus developed and reimagines the cognitive, psychomotor and affective learning domains advanced in Bloom's Taxonomy¹³.

In the Irish HE system, modules are described in terms of Learning Outcomes. Learning activities and assessments are designed to support students to acquire the specified Learning Outcomes, an approach known as constructive alignment. When seeking to integrate SDGs in teaching, a module or programme should expand its focus to consider socio-emotional and behavioural domains⁵. UCC's Academic Strategy⁷ states that "the Bologna process and its Learning Outcomes model speak to the connected nature of learning and its outcomes and impact" Learning outcomes need to be clearly articulated for the learner so that they may realize the relatedness of material within a module or course of study¹⁴.

Some examples of Learning Outcomes which speak to the SDGs include. At the end of this period of learning, the student will be able to:


- explain basic ecology with reference to local and global ecosystems, identify local species and categorize biodiversity (Head)
- argue against destructive environmental practices that cause biodiversity loss (Heart)
- connect with local groups working toward biodiversity conservation in their area (Hands)
- reflect on how individual lifestyle choices influence social, economic and environmental development (Head)
- envision sustainable lifestyles (Heart)
- plan, implement and evaluate consumption-related activities using existing sustainability criteria (Hands)



SDG Resource Library

Curated resources to further enrich your curriculum.

- [Background Information on SDGs and 2030 Agenda](#)
- [General Information on Sustainability](#)
- [Education for Sustainable Development \(ESD\)](#)
- [Progress Towards SDGs](#)
- [SDG Interlinkages and Three Pillars of the SDGs](#)
- [Environmental Pillar](#)
- [Social Pillar](#)
- [Economic Pillar](#)
- [Case Studies Ideas \(Taking Action\)](#)
- [Sustainability Illustrations and Satire](#)
- [Sustainability Illustrations Photo Gallery](#)



• Nations United: Urgent Solutions for Urgent Times, Presented by Thandie Newton, 2020. Outstanding video in wake of Covid-19 addressing issues of resilience, climate change, gender equality, poverty, human rights. **Video (34:09)**
<https://youtu.be/xVWHuJOmaEk>

<https://www.ucc.ie/en/sdg-toolkit/>

Intertwined Professional Development



- Introduction to SDGs and their complexity
- Challenging assumptions
- Mapping connections to the SDG Targets
- Embedding sustainability within curriculum

DIGITAL BADGE:
LEARNING & TEACHING WITH THE SDGS



LEARNING & TEACHING WITH THE SDGS
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