Student-led sustainability curriculum mapping findings and next steps

Swansea University

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SOS STUDENTS ORGANISING FOR SUSTAINABILITY UNITED KINGDOM

Agenda

Aim: Explore key findings of the student-led sustainability curriculum mapping at Swansea University and tangible recommendations and next steps going forward, informed by discussions on the results.

- Introduction to SOS-UK
- Background to student-led sustainability curriculum mapping
- Curriculum mapping at Swansea University
- Methodology and limitations
- Key findings
- Recommendations
- Discussion and questions
- Next steps

Introduction to SOS-UK

Students Organising for Sustainability UK (SOS-UK) is an educational charity, launched in October 2019 by the student movement.

SOS-UK engages, inspires and empowers students to lead on sustainability. A long-term investment in education today for a better future tomorrow.

Our mission

- Getting more students **leading on**, and **learning about**, sustainability.
- Embedding sustainability in education, **from early years to adult learning**.
- Making sustainability **more inclusive**, for everyone.

Overview of sustainability and curriculum mapping

Student demand for sustainability education

88% of students say they agree their place of study should actively incorporate and promote sustainable development

81% would like to see sustainable development actively incorporated and promoted through all courses

65% say sustainable development is something they would like to learn more about

Student motivations for learning about sustainable development:

Concern about the environment

To make a difference to our collective future

United Nations Sustainable Development Goals (SDGs)

What are some limitations to the SDGs?

The contradiction of 'growth' and other SDGs

- Some of the goals call for less growth – e.g. Goal 13 Climate Action will require limiting emissions and radically changing economic systems – whereas other goals explicitly call for economic growth – e.g. Goal 8 Good Jobs and Economic Growth.

- Global production and consumption levels are overshooting our planetary capacity by 50% annually.

- The richest 1% own half the world's wealth – this extreme inequality is not explicitly addressed.

Sustaining global power inequalities

- SDGs promote traditional economic models and prioritise growth over alternatives.

- Ignores structural power inequalities and no exploration of root drivers of worldwide problems.

- Reduces the environment to 'natural resources' only for human benefit.

Lack of transformative alternatives

- Overlooks alternative social and economic systems which tackle root causes of our crises eg degrowth, circular and wellbeing economies, ecological democracy, and more!

What is Education for Sustainable Development (ESD)?
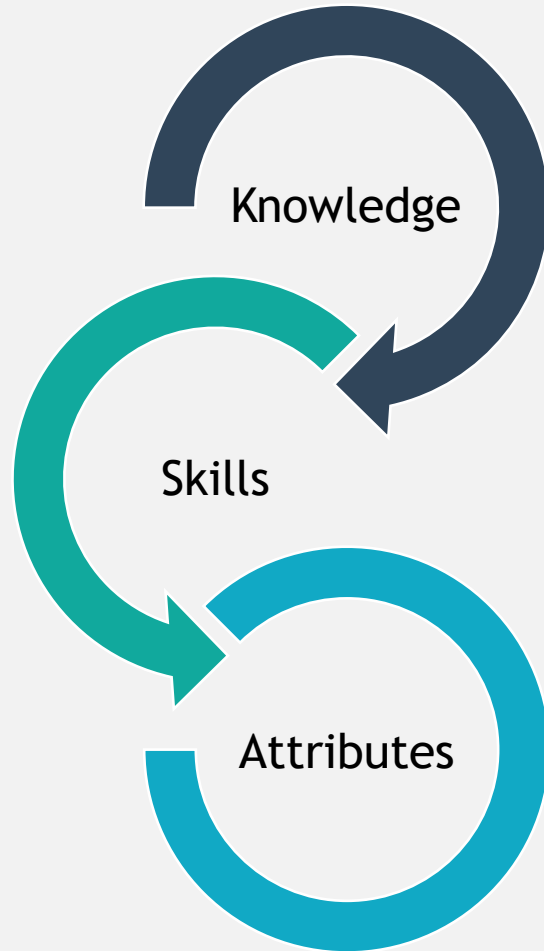
Education for Sustainable Development is the process of equipping students with the **knowledge and understanding**, **skills** and **attributes** needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations.
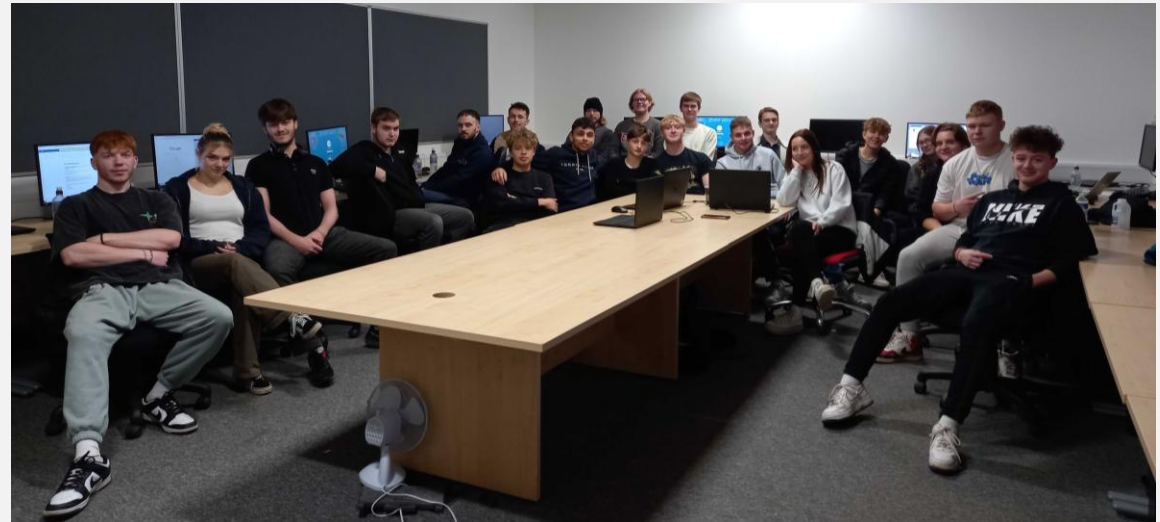
HEA QAA ESD guidance 2014

Student-led sustainability curriculum mapping

In response to institutional and student demand for embedding sustainability in learning, the University of Winchester and National Union of Students developed a training and support package for mapping the curriculum to the **SDGs**, sustainability **skills**, and **ESD teaching and learning methods** through a student-led audit.

SOS-UK has worked with over **450 students** from **20 institutions** to map over **7000 modules/lessons** and over **3500 weeks of teaching and learning.**

Students at East Coast College involved in curriculum mapping

Sustainability mapping methodology developed in partnership with:

Outcomes for institutions

- Identify unknown pockets of good practice and allies.

- Facilitate discussion between students, teachers, professors, tutors, and senior leadership.

- Establish a quantitative baseline and measure progress over time.

- Student skills development and leadership.

Aston University sustainability curriculum mapping

Outcomes for students

- Transferable and ESD skills development in auditing, teamwork, data analysis, time management critical thinking, systems thinking, and more

- Enhanced understanding on the breadth of social, economic and environmental sustainability and how it relates to their own course

- Increased awareness of the behind-the-scenes of their education

- Digital ESD Auditor badge for students' socials, CVs, further study/job applications

Through SOS-UK, students received a digital badge acknowledging their contribution to sustainability as an "Education for Sustainable Development Auditor."

"I learned that teaching has a larger purpose than just exams and assignments." - Previous Student Auditor

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Student-led sustainability curriculum mapping at Swansea University

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Curriculum mapping at Swansea University

Between November to December 2024, 10 students received training from SOS-UK facilitators on Education for Sustainable Development and how to audit descriptions of modules taught at Swansea University.

Students mapped how far module descriptors aligned with different areas of sustainability:

1) The 17 Sustainable Development Goals

2) Sustainability skills

3) ESD teaching and learning methods

Students analysed module descriptors and recorded their scores and additional qualitative feedback via an online Microsoft Form per module.

Swansea University student auditors

Key information

367 were mapped across 21 Undergraduate programmes in nine Schools. Therefore, the findings represent a snapshot of coverage of sustainability in the formal curriculum (there are over 5000 modules taught at Swansea University). The initial target was to map 793 modules.

- Students reviewed module descriptors available to access via the Module Catalogue. Students only reviewed what was included in these module descriptors.

- The SDG specifications came from the United Nations and the ESD methods and sustainability skills were adapted from the Advance Higher Education and Quality Assurance Agency ESD Guidance (2021).

- Training provided bespoke examples of what ESD teaching and learning methods and skills could look like for programmes being mapped at Swansea University. E.g., mock courts in Law (simulation) or analysing alternative narratives in literature (critical thinking).

- Excel data analysis file includes raw, cleaned, and percentage inclusion of sustainability areas and their weightings.

- Results help provide a baseline for understanding how far sustainability is covered in the curriculum and identify actions and next steps.

Part one of the mapping form - SDGs

5. Does the course include content related to the 17 SDGs?

	0 - not included	1 - some or indirect mention of the theme of the goal	2 - strong or direct mention of the goal
Goal 1: No poverty	○	○	○
Goal 2: Zero hunger	○	○	○
Goal 3: Good health and wellbeing	○	○	○

Scoring:
For each course students submit, students gave a score on the form in the relevant row:

0 – not included.

1 – some or indirect mention of the themes of the Goal, but not necessarily working towards the Goal.

2 – strong or direct mention of the Goal, focusing on progress towards the Goal.

Part two of the mapping form – sustainability skills

6. How much does the course include the following sustainability skills?

	0 - not included	1 - included a little	2 - included a lot
Understanding sustainable development	○	○	○
Seeing the bigger picture	○	○	○
Ethics and values	○	○	○
Collaborative problem solving	○	○	○
Critical thinking skills	○	○	○
Challenging business as usual	○	○	○
Taking real-world action	○	○	○

Scoring:

0 – not included, **1** – included a little, **2** – included a lot

Part three of the mapping form – ESD methods

7. Does the course include the following teaching methods?

	0 - not included	1 - included a little	2 - included a lot
Case studies	○	○	○
Stimulus activities	○	○	○
Simulation	○	○	○
Experiential project-based work	○	○	○
Problem-based learning	○	○	○

Scoring:

0 – not included, **1** – included a little, **2** – included a lot

Final section – further information

Further information

8. Please add any further details or explanation for your scoring of this course.

This is where you can provide feedback and highlight any good examples, or areas for improving how sustainability can be further embedded in the course.

Enter your answer

9. Please add any questions you have regarding this course.

Enter your answer

Limitations to the methodology and mitigations

- **Students may interpret the mapping methodology slightly differently**
  - Practice exercises completed as a group during training.
  - Training resources shared afterwards, and students had opportunities during and after the mapping to ask questions.

- **Discrepancies between course descriptors and teaching, learning, or assessment**
  - This was communicated with students during the training, and they were given opportunities to provide feedback via the online form on how module descriptors and taught content could be enhanced, especially for modules where the descriptors may not do justice to the content and delivery of the module.

Limitations to the methodology and mitigations

- **Approximately 7% of total modules at Swansea University were mapped**
  - Results illustrate a glimpse and snapshot into the status of ESD coverage in the curriculum.
  - Pockets of good practice highlighted.

- **The Sustainable Development Goals are an imperfect model**
  - Normative, practical, and political limitations to the SDGs were discussed during the training.
  - Framework designed to highlight the breadth of ESD.

Headline results

Headline results – SDG coverage

Topics related to the SDGs in all mapped modules in total

SDGs (y-axis) vs % of all mapped modules (x-axis: 0% to 100%)

- SDG 1 - No poverty
- SDG 2 - Zero hunger
- SDG 3 - Good health and well-being
- SDG 4 - Quality education
- SDG 5 - Gender equality
- SDG 6 - Clean water and sanitation
- SDG 7 - Affordable and clean energy
- SDG 8 - Decent work and economic growth
- SDG 9 - Industry, innovation and...
- SDG 10 - Reduced inequalities
- SDG 11 - Sustainable cities and...
- SDG 12 - Responsible consumption and...
- SDG 13 - Climate action
- SDG 14 - Life below water
- SDG 15 - Life on land
- SDG 16 - Peace, justice and strong...
- SDG 17 - Partnerships for the goals

Legend: ■ None (%) ■ Some (%) ■ Signficant (%)

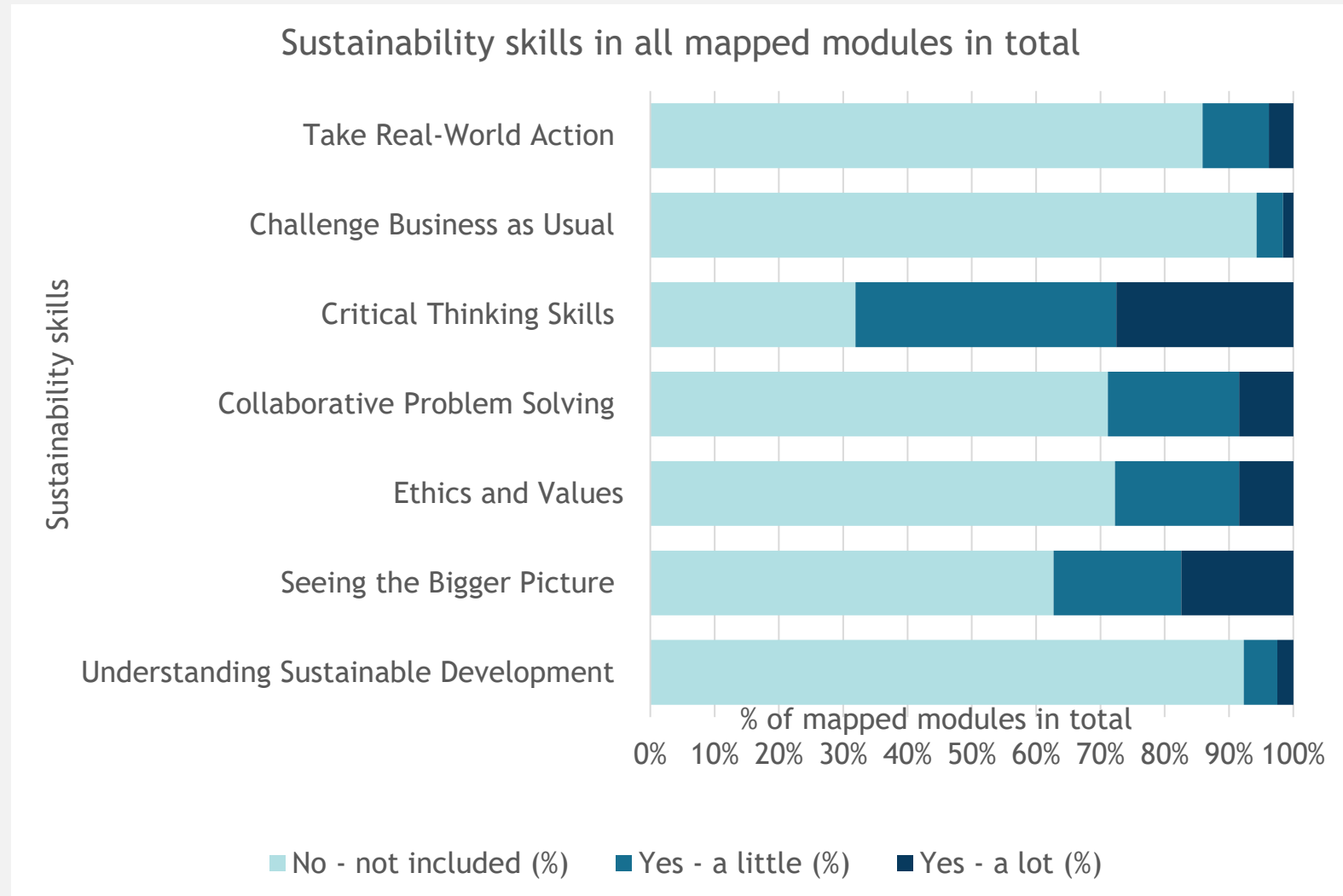**Top three SDGs mapped:**

1) SDG 16: Peace, justice and strong institutions (17%)

2) SDG 3: Good health and wellbeing (16%)

3) SDG 4: Quality education (14%)

Highest coverage in the School of Health and Social Care (33%) and School of Biosciences, Geography and Physics (29%).

Variation between schools in whether SDGs were covered implicitly or explicitly.

Headline results – sustainability skills coverage

Sustainability skills in all mapped modules in total

Sustainability skills (y-axis), % of mapped modules in total (x-axis)

- Take Real-World Action
- Challenge Business as Usual
- Critical Thinking Skills
- Collaborative Problem Solving
- Ethics and Values
- Seeing the Bigger Picture
- Understanding Sustainable Development

Legend:
- No - not included (%)
- Yes - a little (%)
- Yes - a lot (%)

Top three skills mapped:

1) Critical thinking (70%)

2) Seeing the bigger picture (37%)

3) Collaborative problem solving (29%)

Highest coverage in the School of Health and Social Care (61%), School of Biosciences, Geography and Physics (52%), and School of Social Sciences (44%).

Example of good practice - PSY317 - Positive Psychology

Transferable Skills

Communication skills:
- Verbal skills
- Written skills

Assessment & evaluation skills
- Assessment skills
- Evaluation skills

Intellectual skills:
- Analytical skills
- Application of knowledge
- Creative problem solving
- Critical thinking skills

Personal skills and attributes:
- Adaptability / flexibility
- Confidence
- Self-awareness
- Social and cultural sensitivity
- Team working
- Ethical awareness

Organisational skills:
- Independent working
- Initiative
- Planning and organisation
- Time management

Research & investigative skills
- Research skills

"The [Botany and Ecology] module does a good job of building technical and analytical skills but scores low in areas related to sustainability and ethics. It could improve by including how the taught content fits into larger global issues and through interdisciplinary methods.

For example, linking botany and ecology with public health would help us see the bigger picture and understand the real-world impact of what we're learning. This would give us a more well-rounded view of how science can help tackle global challenges."

– ESD Student Auditor of Botany and Ecology (BIO111)

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Headline results – ESD methods coverage

ESD methods in all mapped modules in total
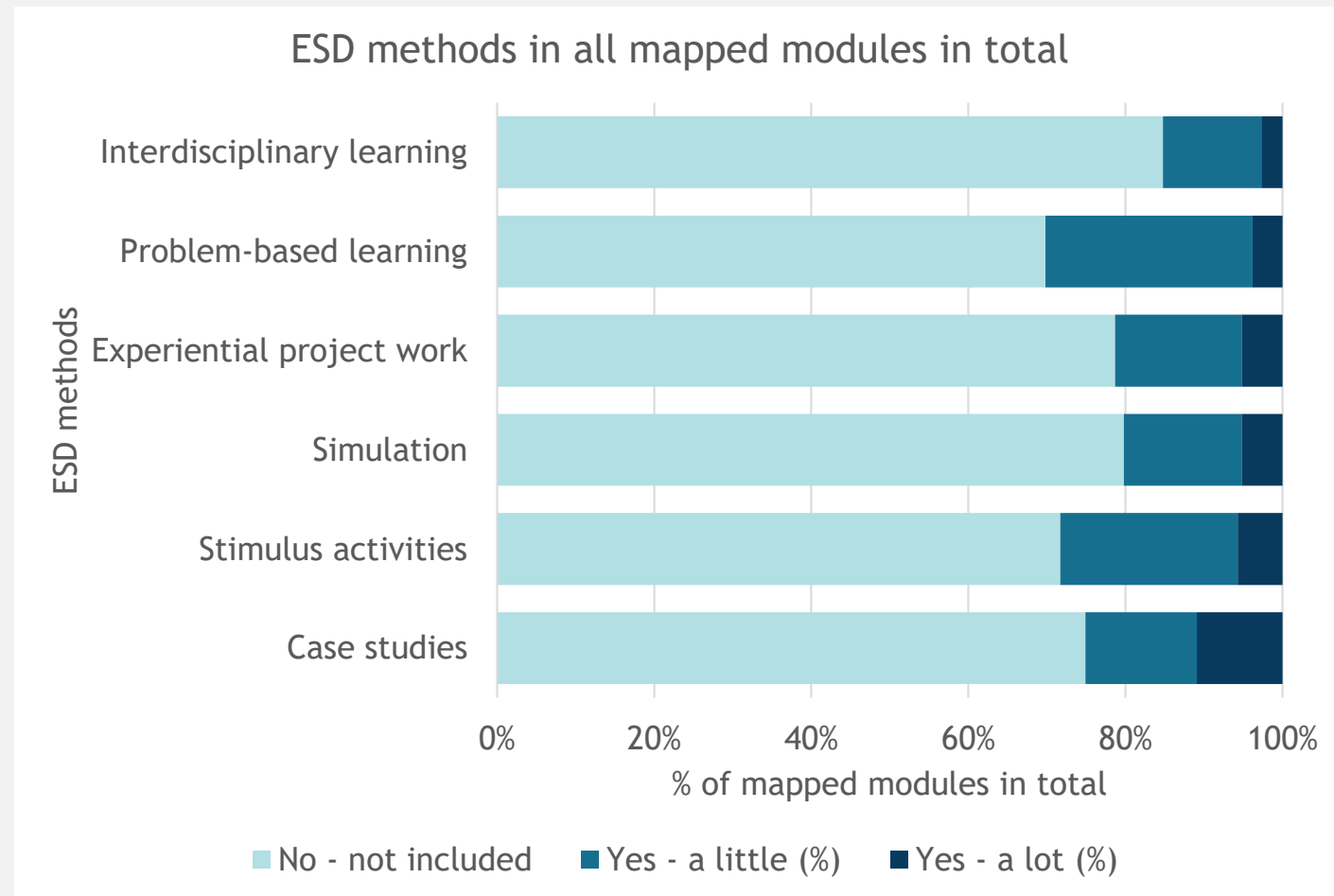
Top three ESD methods mapped:

1) Problem-based learning (30%)

2) Stimulus activities (28%)

1) Case studies (25%)

Highest coverage in the School of Social Sciences (47%) while the School of Mathematics and Computer Science and School of Psychology scored the lowest (6% and 5% respectively).

Example of good practice - SHN166S - Contexts of Care (Adult)

Leadership and managing nursing care and working in teams 5.4, 5.6.
• Understanding the role of the adult nurse and others within an interdisciplinary team, for effective care planning and delivery of contextual care.
• Understanding effective team working in adult nursing practice within contextual care delivery

Improving safety and quality of care 6.4, 6.6, 6.7, 6.9.
• Understanding the importance of quality improvement in healthcare delivery to inform, develop and influence adult nursing practice.
• Understanding the service user voice to inform and enhance quality care delivery in adult nursing practice

Coordinating care 7.1, 7.5, 7.6, 7.10.
• Understanding the importance of effective partnership working to support contextual adult nursing practice, through involvement in total patient care.
• Understanding and recognising complex care relationships within healthcare and interdisciplinary team working.
• Principles and processes of effective discharge planning and transitional care arrangements in relation to contextual care environments in adult nursing practice.

Annex A: Communication & relationship management skills 1.1 – 1.12, 2.2 – 2.5, 2.8, 3.5, 3.7, 3.8, 4.2.3, 4.2.5
• Communication and collaborative working within contextual environments in adult nursing practice to support assessment, planning, implementation, evaluation to s
• Adult/ patient and family-centred nursing care delivery in contextual care environments for adult nursing.
• Developing therapeutic and effective collaborative relationships in adult nursing practice to support effective care delivery in varying care contexts.

Annex B: Nursing procedures 1.1, 1.2, 2.1, 2.4, 2.6, 2.11, 3.1, 3.3, 3.5, 3.6, 6.1, 7.1, 7.4, 8.1, 11.3, 11.4, 11.6, 11.8
• Adapting and using evidence-based nursing practice and interventions to support care delivery in varying contexts of adult nursing practice.
• Collaborative evidence-based best practice approaches to care planning, implementation and evaluation in the varying care contexts within adult nursing practice.
• Supporting, promoting and empowering individual independence in self-care delivery in contextual care environments for adult nursing practice.
• Understanding accountability in medication management, optimisation and prescribing practice

"While topics such as energy conservation and forces are covered, there are further opportunities to directly link these principles to sustainability issues, such as renewable energy, climate action, or resource management.

Incorporating real-world applications, case studies, and interdisciplinary learning could help align the content with sustainability goals and enhance students' understanding of how physics can contribute to addressing global challenges."

– ESD Student Auditor of Classical Mechanics (PH-100)

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Recommendations

Updates to the findings report are ongoing. We want to use these conversations to understand what is most useful and important for providing greater detail on the report recommendations and action plan.

Report recommendations (from the first report):

- Ensure module descriptors clearly highlight relevant ESD skills and SDGs.

- Continue to work in partnership with students for future mapping exercises. ESD Continued Professional Development for staff can support this.

- Celebrate good practice and apply findings to inform the Swansea University Learning and Teaching 2026 Curriculum Transformation project.

Example recommendations for the revised report:

- SDG coverage: how the SDGs aligns with taught content while also building on and supplementing them

- Sustainability skills: the employability aspect of green skills for all careers, explore how these relate to students' own priorities and (research/further study) interests

- ESD methods: integrating SDGs and related topics into teaching/learning methods, explore living labs

Encourage educators to take part in future SDG Teach Ins (next is in March 2026). SOS-UK can provide additional guidance on this and how best to tailor the Teach In to Swansea's context.

"Any additions related to sustainability should be relevant and meaningful rather than being included simply to meet a perceived requirement. Incorporating sustainable practices and content should align with the purpose of the programme, add value and depth."

– ESD Student Auditor

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Next steps

- SOS-UK to update Swansea University student-led sustainability curriculum mapping report. Based off staff and student feedback so far this can include:
  - More specific recommendations after each specific section of the report.
  - Proposed action plan to bring ideas and recommendations together.
  - More context to the results e.g., spread of auditors who mapped different programmes and noting accredited courses that aren't expected to build critical thinking skills until later years. SOS-UK currently leading a project about PSRBs and student-led reviews of QAA Subject Benchmark Statements which can inform the updated report.
  - Information on how ESD can boost/supports graduate outcomes and employability – this is the bigger picture of sustainability curriculum mapping.
  - Suggestions for improving communication of SDGs/ESD skills/learning methods in module descriptors and highlight another methodology that exists – mapping the actual student experience of ESD, what are they receiving and (consciously) absorbing/applying.

- Swansea University can use the mapping report to inform future mapping projects and the 2026 Curriculum Transformation, e.g., further embedding ESD into module descriptors and proformas.

- Continued conversations between academics and Swansea University staff about the findings and actions moving forward.

- Any possible continued support from SOS-UK.

Open discussion

- Did anything surprise you about the findings?

- What else would you like to see in the updated report?

- How would you like to be involved in further curriculum mapping?

- What kind of support and resources can help you to further embed the SDGs and ESD into your modules and programmes? How can SOS-UK and Swansea University support you or help with this?

- Any other thoughts or questions?

Thank you!

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