How can universities embed sustainability into the curriculum?

Recommendations for LSE to enhance the visibility of sustainability commitment and adopt best practices in Education for Sustainable Development (ESD)

LSE Change Makers Programme

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Background

This research project was developed from the topic and summary offered by Martina Rotolo, Programme Manager, Education for Sustainability, Eden Centre, The London School of Economics and Political Science (LSE). Embedding ESD across the teaching and learning experiences is part of **LSE's Sustainability Strategic Plan** (LSE, no date) and also aligns with delivering '**LSE 2030 Priority 1: Educate for Impact.'** To support this vision and the Eden Centre's ongoing work under the 'Education for Sustainability' vertical, the research goals are twofold; a) enhancing the visibility of ESD commitment and expanding learning opportunities within the school; and b) enabling the adoption of pedagogical best practices. ESD research and implementation are globally channelled through **a 4Cs approach** encompassing **Campus, Curriculum, Culture, and Community** (RCECAC, 2013). While the literature review covered the 4Cs, the scope of primary data collection and recommendations is limited to 'Curriculum'.

Methodology

The research design followed a four-layered approach; REVIEW - LISTEN - INVESTIGATE - REPRESENT. Firstly, we reviewed the existing literature on ESD, including the policy papers published by various United Nations subsidiaries and good practices benchmarked by the LSE Sustainability Programme Manager from around thirty universities. Based on this understanding, we employed three strategic listening-based qualitative research methods: **questionnaire surveys from 35 student respondents** *(from thirteen departments)* **and five online focus group discussions with a total of fourteen student participants** *(representing nine departments)* **to capture their perception of ESD, and three expert interviews with ESD practitioners to triangulate recommendations.** Following that, we synthesised the findings from the literature review and primary data through thematic analysis. Lastly, the recommendations are presented as two outputs: **a creative and adaptable ESD curriculum integration framework for universities and a catalogue of ideas to enhance ESD's visibility at LSE.**

Literature Review

In the last two decades, substantial scholarly work has been done to analyse the potential benefits of ESD initiatives. For example, Biasutti, De Baz, and Alshawa, analysing two Jordanian universities, infer that **ESD integration leads to the introduction of new topics and themes in course curricula** ranging from practices of sustainable production and consumption to competencies to shape a sustainable lifestyle (Biasutti, De Baz, and Alshawa, 2016). On the other hand, Lozano and Young argue that there is no significant evidence to suggest that courses successfully integrating sustainability attract higher student enrollment numbers, implying that more work could be done to convince students themselves that sustainability is an important consideration when it comes to course choice (Lozano and Young, 2013). This contrasts with Solis-Espallargas et al.'s more recent study, which finds considerable enthusiasm among students for receiving sustainability-focused training at the university level (Solís-Espallargas et al., 2019). **This implies either that students have grown more interested in ESD**

initiatives over time as environmental issues have grown ever more salient, or that the ESD initiatives are responding to the demands of the job market and have become an essential asset.

As well as assessing progress towards the integration of sustainability into university curricula, scholars have also offered a range of potential models and strategies for achieving this end. Junyent and Geli de Ciurana present the 'ACES' model, providing an objective standard for measuring the extent to which curricula incorporate sustainability (Junyent and de Ciurana, 2008). Lozano and Watson, meanwhile, discuss the STAUNCH® tool as a model for identifying best practice examples of curricula that integrate sustainability (Lozano and Watson, 2013). **This brief review of the theoretical literature brought our focus to two pressing issues that we believe are obstructing the rigorous adoption of ESD: 1) the subjective, context-based interpretation of 'sustainable development' among academicians; and 2) disagreement in accepting the United Nations Sustainable Development Goals as the sole entry point to ESD.**

Data Analysis and Findings

The primary focus of the data collection process was to capture students' general understanding of 'sustainability' and their perception of LSE's ESD initiatives. Here are some key insights:

a. **Only 27% of survey respondents had heard of the LSE Sustainability Strategic Plan,** though 84% of them expressed an interest in the environment, sustainability, and climate change.
   i. This suggests a potential gap at LSE's end in disseminating the core ESD message and vision, even among those with the greatest interest.

b. **Nearly half of the survey respondents (44%) mentioned that ESD integration is either poor or non-existent in LSE,** and 64% of the respondents feel that their modules do not devote enough attention to the environment, climate change, and sustainability even when there is scope for it.
   i. This suggests the need to increase the number of courses with direct ESD value and evaluate the existing course curricula from an ESD perspective.

c. "If you want to include sustainability... in almost all courses, you could include it, but I don't know if it would fit in, and if professors will have the expertise to teach that" | **"It's going to feel as if this concept of sustainability is forced when it's parachuted on [professors], and it won't make sense in the flow of the lectures."**
   i. These quotes from students express their apprehension about mandatorily embedding ESD in all courses and suggest the need for a strategic, voluntary adoption of ESD.
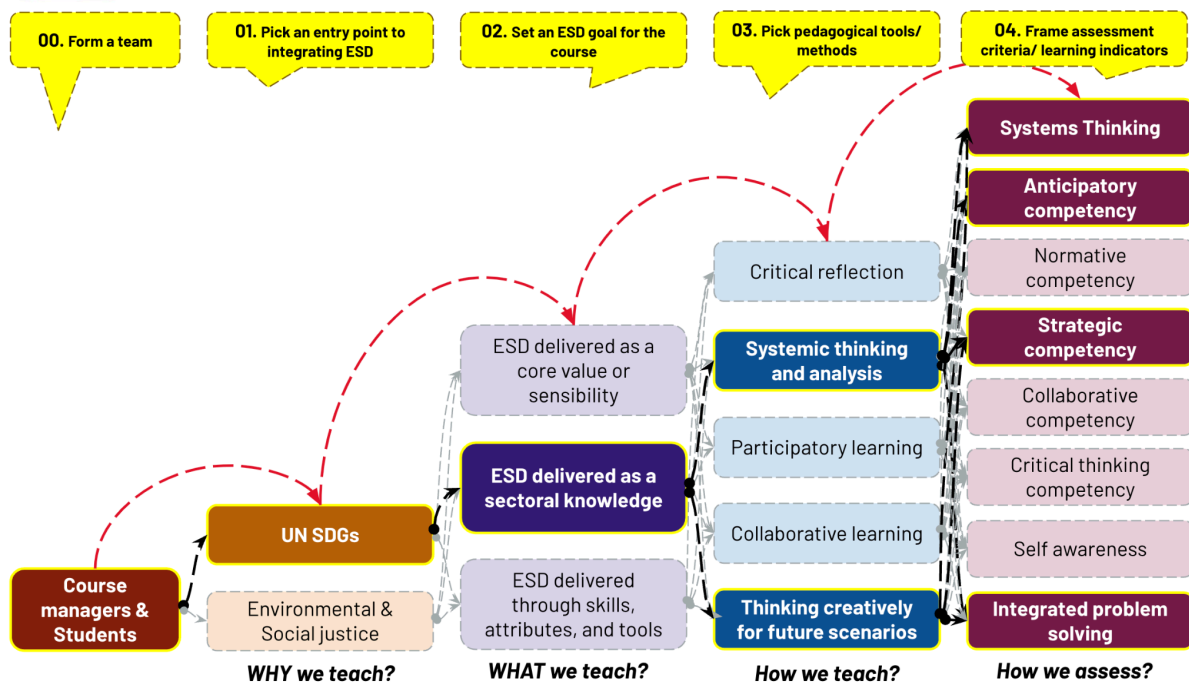
Recommendations

A catalogue of ideas to enhance ESD's visibility at LSE under three categories with case references:

1. **Curriculum review and reporting:** Appoint department-wise ESD representatives to audit courses and support students in choosing suitable ESD-informed modules.
   a. *SDG Curriculum Audit and SDGs Report (KCL, 2022)*
   b. *SDGs report outlining the current contribution towards SDGs (University of Leicester, 2023)*

2. **Outreach:** Develop a communication and influence strategy to disseminate information about the LSE Sustainability Strategic Plan and update the course directory with a tagging system that enables students to see the core themes of each module, including various components of ESD. The Eden Centre and the Student Union could also collaboratively deliver 'ESD Induction Sessions' during Welcome Week to orient freshers on informed course selection.
   a. *Module catalogue responsive to 'sustainability' and 'climate' as search keywords (UCL, 2022)*
3. **Incentivize ESD adoption:** Offer awards for contributions to ESD initiatives and create opportunities for practical, skills-focused engagement with ESD in alignment with career goals.
   a. *LSE's Chronos Sustainability Prize (rewards could be instituted for other modules too.)*

An ESD curriculum integration framework for universities is conceptualised as an easy-to-use template with five layers sequentially covering Course Team, Course Vision, Course Goals, Course Pedagogy, and Course Competencies (Annexure A). It suggests a collaborative, step-wise process for integrating ESD into any course curriculum. For simplicity, these layers have been kept with minimal components drawn from key literature references. Based on the need and complexity of course modules, the Course Team could further expand this framework with new entries. The below illustration showcases an ESD integration pathway for a sample course module using the proposed framework.

Conclusion

The proposed recommendations and the framework offer a starting point to expand the conversation and outreach around ESD at the LSE. However, rigorous research is required to develop pathways and models for supporting students to achieve ESD learning outcomes. The next year's Change Makers programme could provide an opportunity to do that.

Annexure A: Layers of ESD Curriculum Integration Framework

Course Team refers to a small working team headed by the course manager with student representatives and other teaching staff involved in delivering the course module.

Course Vision (WHY do we teach this course module?) stands for an entry point or an academic perspective or lens to guide the ESD integration process. Based on case studies, two potential lenses have been identified:

 a. United National Sustainable Development Goals
 b. Environmental and Social Justice

The course team could also use other relevant entry point/s.

Course Goals (WHAT do we teach through this course module?) recommends a critical reflection on the content of the course module in alignment with ESD. While every course module has the opportunity to embed ESD, the approach could vary to deliver it

 a. as a core value or sensibility
 b. as a sectoral knowledge
 c. through skills, attributes, and tools

Notably, the student participants of the focus group discussion expressed a high level of interest in skills-based learning opportunities.

Course Pedagogy (HOW do we teach this course module?) lists a range of tools and methods to deliver the course, based on Eden Centre's recommendation.

 a. **Critical reflection:** Reflexive accounts, learning journals, discussion groups
 b. **Systemic thinking and analysis:** Real-world case studies and critical incidents, project-based learning, stimulus activities, campus as a learning resource
 c. **Participatory learning:** Group or peer learning, developing dialogue, experiential learning, action research/learning to act, and developing case studies with local community groups and business
 d. **Collaborative learning:** Guest speakers, work-based learning, interdisciplinary/ multidisciplinary working
 e. **Thinking creatively for future scenarios:** Using role play, real-world inquiry, futures visioning, problem-based learning

The course team could also add other relevant and creative pedagogical tools and avenues.

Course Competencies (HOW do we assess learning?) are drawn from UNESCO's 'Education for Sustainable Development Goals: Learning Objectives Report 2017' as necessary attributes for all learners of all ages worldwide to advance sustainable development.

a. **Systems thinking competency:** the ability to recognize and understand relationships; analyse complex systems; think of how systems are embedded within different domains and different scales; and deal with uncertainty.

b. **Anticipatory competency:** the ability to understand and evaluate multiple futures – possible, probable, and desirable; create one's visions for the future; apply the precautionary principle; assess the consequences of actions; and deal with risks and changes.

c. **Normative competency:** the ability to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.

d. **Strategic competency:** the ability to collectively develop and implement innovative actions that further sustainability at the local level and further afield.

e. **Collaboration competency:** the ability to learn from others; understand and respect the needs, perspectives, and actions of others (empathy); understand, relate to, and be sensitive to others (empathic leadership); deal with conflicts in a group; and facilitate collaborative and participatory problem-solving.

f. **Critical thinking competency:** the ability to question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse.

g. **Self-awareness competency:** the ability to reflect on one's role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

h. **Integrated problem-solving competency:** the overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the above-mentioned competencies.

As educators across the world have been conducting rigorous research on key metrics for measuring and mapping ESD, the list is evolving with time. These competencies could serve as the base for designing assessment protocols and are not meant to be prescriptive.

References

1. Biasutti, M., De Baz, T. and Alshawa, H. (2016) 'Assessing the Infusion of Sustainability Principles into University Curricula', *Journal of Teacher Education for Sustainability*, 18. Available at: https://doi.org/10.1515/jtes-2016-0012.

2. Junyent, M. and de Ciurana, A.M.G. (2008) 'Education for sustainability in university studies: A model for reorienting the curriculum', *British Educational Research Journal*, 34(6), pp. 763–782. Available at: https://doi.org/10.1080/01411920802041343.

3. KCL (2022) *UN Sustainable Development Goals Report - Kings College*, *King's College London*. Available at: https://www.kcl.ac.uk/about/strategy/sustainable-development-goals (Accessed: 19 June 2024).

4. Lozano, R. and Watson, M.K. (2013) 'Assessing Sustainability in University curricula: Case Studies from the University of Leeds and the Georgia Institute of Technology', in, pp. 359–373. Available at: https://doi.org/10.1007/978-3-319-02375-5_20.

5. Lozano, R. and Young, W. (2013) 'Assessing sustainability in university curricula: exploring the influence of student numbers and course credits', *Journal of Cleaner Production*, 49, pp. 134–141. Available at: https://doi.org/10.1016/j.jclepro.2012.07.032.

6. LSE (no date) *LSE2030*, *London School of Economics and Political Science*. Available at: https://www.lse.ac.uk/2030/sustainability-strategic-plan/home.aspx (Accessed: 19 June 2024).

7. RCECAC (2013) *Resource Center for Environmental and Climate Action in K-12 Schools - 4Cs Framework*. Available at: https://sites.google.com/view/scrs-center/vision-and-framework/4cs-framework (Accessed: 19 June 2024).

8. Solís-Espallargas, C. *et al.* (2019) 'Sustainability in the University: A Study of Its Presence in Curricula, Teachers and Students of Education', *Sustainability*, 11(23), p. 6620. Available at: https://doi.org/10.3390/su11236620.

9. UCL (2022) *Study or research sustainability*, *Sustainable UCL*. Available at: https://www.ucl.ac.uk/sustainable/case-studies/2022/nov/study-or-research-sustainability (Accessed: 19 June 2024).

10. University of Leicester (2023) *Sustainable Development Goals, University of Leicester*, *University of Leicester*. Available at: https://le.ac.uk/about/making-a-difference/sdgs (Accessed: 19 June 2024).