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# Sustainability In Practice: A Case Report of An Interdisciplinary Online Student Conference

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**Abstract:** Sustainable development is interdisciplinary and applicable to all Higher Education subject areas. However, in some curricula its importance is overlooked which presents a barrier to the achievement of the United Nation Sustainable Development Goals (SDGs). To address this, we organised a ‘Sustainability in Practice’ online conference that invited students to discuss ‘Sustainability, what's it got to do with me?’. The conference, embraced a transformational education approach and active learning, included keynote speakers, breakout sessions and research posters. Student feedback highlighted that they found the event valuable and inspirational: the knowledge gained and discussions with academics and peers were particularly helpful. Students also wished for further engagement, emphasising the event's value and impact on their appetite for knowledge. Insights reported will enable other institutions to replicate the conference thereby helping them to develop their own students’ knowledge and facilitate conversations on sustainability, contributing to education for sustainable development and further achieving the SDGs.



**Keywords:** Sustainability; Higher Education; Interdisciplinary; Online; Education for Sustainable Development.

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### **Sustainability in Higher Education**

Global challenges including climate change and biodiversity loss cannot be solved by only those in environmental and sustainability fields. Instead, current business as usual needs to be transformed to sustainable action to address the climate emergency and ecological crisis as well as support the achievement of the United Nations Sustainable Development Goals (SDG). Higher Education (HE) providers are in a key position to educate their students on global challenges providing the knowledge, skills, and confidence to act. From their invaluable platform they can facilitate change and support the creation of global citizens, a target of SDG 4 regarding inclusive and equitable quality education and lifelong learning. This potential is reinforced by the IARU (2014, p.5) emphasising that institutions 'have the opportunity to create cultures of sustainability for today's students and tomorrow's leaders and to set their expectations for how the world should be'.

Sustainability is interdisciplinary and applicable to all subject areas, but in some curricula its importance is overlooked. To address this, the University of Derby Online Learning (UDOL) organised an online conference 'Sustainability in Practice: Sustainability, what's it got to do with me?'. The aim was to help the student body, irrespective of study mode or discipline to make and/or strengthen connections to sustainability in a practical and meaningful manner. This case report shares the experiences, good practice and feedback obtained to enable other HE providers to replicate the conference.

### **Sustainability in Practice Online Conference**

The conference was hosted on Blackboard Collaborate Ultra, an online classroom teaching tool. It included two keynote presentations which addressed embedding sustainability in HE, five subject centred breakout groups, a student poster session, and a plenary. The breakout sessions covered Healthcare Systems & Services; Business & Management; Psychology & Related Professions; Engineering Practice; and Education for a Sustainable Future. Whilst these sessions do not capture all disciplines, they represented subjects within UDOL and attendees from outside these areas explored sustainability within another discipline reinforcing the events interdisciplinary nature (Kotera et al., 2019). Academics from the disciplines facilitated the breakout sessions and collaborated beforehand to share ideas and align the sessions focus and content (Kotera et al., 2020). This followed recommendations that sustainability education should involve collaboration from academics in different disciplines (Sibbel, 2009). 150 UK-home and international students attended, and breakout sessions had 20-30 attendees.

The digital poster session provided students with an opportunity to showcase their sustainability knowledge and research skills. The session was hosted on Padlet, a virtual bulletin board, and attendees were able to

read and comment asynchronously on submissions. The final aspect of the conference was a plenary where the academic staff shared key points from their breakout sessions. Prizes were awarded to three poster submissions, judged by a panel of academic staff.

The conference embraced a transformational education approach, which UNESCO (2021) note as integral for education for sustainable development (ESD), as it ‘empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity’. Schnitzler (2019) further adds that participation and social engagement strengthen transformative ESD, reinforcing the value of the interactive, interdisciplinary, and international nature of the conference.

### Key elements

Capturing students understanding of sustainability and its role within their discipline was a key aspect of the breakout sessions. Academics used of a variety of interactive online tools including word clouds and polls to promote engagement and create a valuable output to use in the plenary. Figure 1 is an example of a word cloud generated using Poll Everywhere, an online audience engagement tool.

Figure 1. Word cloud output from the Business and Management breakout session (The Authors)



The range of terms highlighted in Figure 1 demonstrate the diversity of the students' understanding and interpretation of sustainability within the subject area. This style of learner-centred approach is endorsed by UNESCO (2021) who emphasise the importance of an interactive pedagogy within ESD.

Polls and quizzes were used as inquiry-based technologies to explore SDG understanding and gauge student opinion on sustainability. Interactive whiteboard slides were also used to enable students to add content to tables and mind maps using typing or drawing functions. These activities were designed to create a stimulating and memorable learning

environment embracing the transformational education approach and utilising active learning (Kotera et al., 2021). It has been well-established that ‘active inquiry, not passive absorption, is what engages students’ (Johnson et al. 1989, p.68). Indeed, active inquiry continues to be highlighted in current online pedagogy as an effective method (Valverde-Berrocso et al., 2020), supporting students’ independent learning (Geng et al., 2019). It was therefore hoped these strategies would solidify their learning of sustainability in practice.

### Conference Feedback

Attendees were invited to provide feedback on their experience via an anonymous form (data collection was approved by the UDOL Ethics Committee). Overall, feedback was positive with students stating the event was ‘*Interesting*’, ‘*Inspiring*’, and ‘*Insightful*’. Students also reported that they enjoyed discussing sustainability because there was no opportunity to do so in their standard curriculum. One student specifically noted that ‘*It is so educating and also an eye opener to our various fields of practice.*’ Moreover, attendees said that interdisciplinary peer discussions were beneficial to gain a new perspective towards sustainability. There was, however, a call for further interaction. Two attendees requested a question-and-answer session with the poster authors, and another suggested more interactive keynote sessions, highlighting students’ desire to participate and engage. Indeed, the desire to learn more about sustainability was apparent with 84% of respondents indicating that they would like more sustainability content in their studies. Further feedback is summarised in Table 1.

Table 1. Positive and Negative student feedback from the online sustainability conference (The Authors)

|          | Themes                                 | Example comments                                                                                                                         |
|----------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Positive | Knowledge gained from keynote speakers | <i>‘Fantastic key notes. Lots of opportunity to engage and talk about issues and definitely learnt lots about different industries.’</i> |
|          |                                        | <i>‘Useful links to articles provided as well as a good background to the topic.’</i>                                                    |
|          |                                        | <i>‘I LOVED this session! She was extremely passionate and provided some great ideas to live more sustainably!’</i>                      |
|          |                                        | <i>‘Very informative and engaging’</i>                                                                                                   |

|          |                                                                    |                                                                                                                                                                           |
|----------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Value of an interdisciplinary approach                             | <i>'It is so educating and also an eye opener to our various fields of practice. A lot of professionals sharing their views and ideas.'</i>                               |
|          |                                                                    | <i>'It was a nice blend of different things, a well thought out conference.'</i>                                                                                          |
|          |                                                                    | <i>'I feel empowered and enlighten[ed]'</i>                                                                                                                               |
|          |                                                                    | <i>'Lots of opportunity to engage and talk about issues and definitely learnt lots about different industries.'</i>                                                       |
|          | Importance of the practical application of sustainable development | <i>'I was interested from a practical and professional sense. I found it useful as it made an effort to connect the SDGs to [the] real world.'</i>                        |
|          |                                                                    | <i>'More awareness about sustainability is vital, but only when it's done in an interesting way, like this conference' reinforcing the events value.'</i>                 |
|          |                                                                    | <i>'As a conservationist currently studying psychology, I found it really interesting - in particular, the opportunity to discuss the relevance in my field of work.'</i> |
| Negative | Internet Connectivity challenges                                   | <i>'Poor connectivity made it difficult to engage with.'</i>                                                                                                              |
|          |                                                                    | <i>'Technology issues made the initial 20 minutes a little difficult to follow.'</i>                                                                                      |
|          | Time constraints                                                   | <i>'Short period of time to discuss multiple matters.'</i>                                                                                                                |
|          |                                                                    | <i>'Some good points [were] raised but the subjects I hoped would be covered weren't.'</i>                                                                                |

The positive feedback reinforces the value of the event as a source of practical information sustainability application in different disciplines. Further, 90% of respondents would recommend the conference, with one noting they are *'expecting frequent sessions'* and another stating they *'would have liked to have attended two breakouts'*. It is also important to note that the negative feedback centred on connectivity challenges and time constraints, two areas that could be remedied with support from an IT Team and extending the event to allow for further coverage of discipline content.

## Recommendations

SDG 4 Target 4.7 sets an ambitious objective to “ensure that all learners acquire the knowledge and skills needed to promote sustainable development” (UN, 2021). The targets intent is clear, however, Sandri (2021) highlights there has been limited research on how to achieve effective ESD learning. Holdsworth and Sandri (2021: p.2) therefore advocate the importance of research on ‘good practice learning and teaching for sustainability’. This case report details the value of an interdisciplinary conference for raising awareness of sustainability amongst the student body. Holdsworth and Sandri (2021: p.2) further emphasise that a key ‘part of teaching sustainability involves [...] proving its relevance and legitimacy as a subject in a course of study’. This event provided an opportunity to showcase the importance of sustainability to different disciplines and as evidenced from the feedback, acted as a catalyst for student enquiry.

Sustainability is not a new concept, but there are still many areas where it is not fully understood despite the establishment of the SDGs in 2015 and the Millennium Development Goals that preceded these in 2000. Innovative and interdisciplinary events such as this conference are essential to raise the profile of sustainability in practice and universities have a captive and international audience to participate (Xu et al., 2022). It has been estimated that by 2040 the total number of HE students worldwide will be almost 600 million (Calderon, 2018) reinforcing the potential of targeting these ‘critical players in achieving sustainability’ (Mohamad et al., 2021: p.405). The online format also lends itself to wider dissemination as access was not restricted to only those on campus. Moreover, as the conference was hosted within the university virtual learning environment and facilitated by academic staff the cost was minimal and could be easily replicated.

The researchers acknowledge the limitations of this case report and that it is not an empirical paper and as such may be biased as authors were involved in conference organisation and delivery. They also recognise that students who did not attend may not be interested in sustainability, and as such must consider how to support their awareness needs. That said, for those that did attend this was a positive and informative event.

## Conclusion

The SDGs include a blueprint for the future of education and a specific target for ESD. With only six years remaining on this 2030 agenda, the importance of ESD has never been greater, and universities play a key role in this task. This paper has outlined the value of utilising an online interdisciplinary conference to not only augment student understanding on the importance of sustainability but to actively involve them in learning how it can be applied. Students found this event valuable and inspirational. Whilst areas for improvement were identified, these derived from a desire for more opportunities for discussion and learning, emphasising the value of the event and its impact on student appetite for knowledge. Insights

reported will help other HE institutions to develop their own students' knowledge and facilitate conversations on sustainability to support SDG achievement.

**Author's contributions**

All authors made significant contributions to the preparation of the manuscript.

**Conflict of Interest**

None.

**Informed Consent**

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