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Innovative approaches to sustainability skills development: a crowd-sourcing workshop

Iain Cross
London School of Hygiene and Tropical Medicine, UK

Alina Congreve
Independent researcher, UK

Presentation abstract

There is currently significant interest in how students are taught about climate change in higher education. Students in subjects from law and chemistry, to fashion and business, are looking at climate risks, how to deal with uncertainty and the need for more systemic approaches. The work of learning developers has arguably tended to prioritise 'traditional' academic skills (such as academic writing, referencing, information searching and numeracy). However, there is a growing expectation from students, government and employers that graduates develop a range of advanced skills, such as project management, data visualisation and problem solving. These skills will help students actively contribute to building a more sustainable and equitable future. This challenges learning developers to find new and innovative ways to support students' learning, as they acquire these skills that are increasingly expected in society.

The aim of this interactive workshop was for the learning developers participating to be empowered to engage with these changes in their own institutions. Much of the facilitated discussion looked at new approaches to learning development that support education for sustainability. It comprised a series of mini-presentations of case-studies derived from original research into teaching climate change including 35 in-depth interviews. The workshop drew on the presenters' research to crowdsource solutions from the learning developer community to key challenges. How can we foster creativity, innovation and systemic thinking in graduates? How can advanced skills for sustainability be scaffolded in the university curriculum? The workshop is designed to be of interest to learning

developers with experience in supporting education for sustainability, and those new to the topic.

Workshop design and delivery

The session began by us introducing ourselves and what drew us to the issue. After a gap of two years of meeting in person, we designed and delivered the session to be highly interactive and to encourage all the participants to engage with the activities. To frame the discussion and to spark ideas, we began with a short presentation, drawing key examples from our research. These examples briefly examined some of the diverse disciplines which are including climate change as part of their curriculum to illustrate the range of approaches across different degree programmes and in contrasting institutions.
In the first activity, which lasted 20 minutes, the participants reflected on the case studies to identify how learning developers can support the development of students' high-level skills to engage in sustainability and climate change and be effective change agents, regardless of their disciplinary setting. Participants were sitting on tables focused on the groups' chosen skill (project management, data management and digital skills) and considered learning activities that develop that skill across a range of disciplines.

We then gave a short presentation about scaffolding sustainability skills. Our research has shown that scaffolding higher-level skills throughout degrees is vital to ensure students are well-prepared for working on live projects and with external stakeholders. We illustrated this through sharing examples of a partnership approach involving a real-world, work-based assessment. We also shared some of the problems caused for students and learning developers by a lack of scaffolding in degree programmes.

The second group activity built on this, focusing on scaffolding skills to engage in live projects. In this activity, the participants in the workshop explored how the learning activities they designed in the first activity can be embedded across different levels of study. They focused on applying the principle of scaffolding, by exploring how much, and what type, of support is required in the early stages of a degree and how this can be gradually reduced as students progress through their studies. It reflected the varied work of learning developers: with individual students who seek advice; and working with subject academics and student groups. This part of the session highlighted the importance of a

joined-up approach to curriculum development, and provided participants with ideas for how they can contribute towards embedding sustainability skills across a degree programme.

At the end of this activity we returned to plenary discussion to share key points from each table and to engage in a facilitated 'what next?' conversation. This was to identify mutual areas of interest among the group and to consider how to take forward the thinking in the session to be of wider benefit to the learning development community. Participants were encouraged to articulate what their needs were and what materials and resources they would find most useful.

Community response

'For my institution, integrating social justice, sustainability and zero-carbon initiatives is a requirement of all curricula. As learning developers, this is something we not only need to respond to, but something we need to support. I really enjoyed this session and the activity that Iain and Alina had prepared as it paved a way forwards for this. My only disappointment was that the session would have benefitted from more attendees to share ideas - but this is something very much out of your control.'

'The session was a very useful forum for sharing and hearing ideas on developing activities with a sustainability/climate crisis focus. The best part for me was that some of those discussions carried on outside the session and have led to making contacts for sharing practice and ideas with LDers from other universities. I'd love to see more of how LD (learning developers) can engage with these issues that cut across disciplines.'

The following summarises the responses generated by the workshop participants:

Activity 1: Developing advanced skills.
Reflect on the skill that you have chosen, and consider what approaches are effective for building this skill among students?

Group 1 (Data management and digital skills)

- What do you already know?

- Where are you confident or strong (unpick confidence vs. competence)?

- What's your goal?

- What are your assessment criteria / criteria for success? Understanding the brief

- What tools / resources might help you? (facilitating self-help strategies e.g. YouTube

- What have you already accessed?

- What device or software do you have?

Group 2 (Project management)

- What is project management

- What is the project?

- Context – aspect of sustainability skills – teamwork? Organization?

- Thought experiment if not managed

- What will your role be? Who will you manage and what are their roles?

- Political – philosophy of approach… - pre-figurative….

- What skills could you bring

- Have you ever been a leader? Can you reflect on past experiences?

- Project management skills audit – strengths etc.

Activity 2: Scaffolding advanced skills.

Scenario 1 – a student comes to you for help with a piece of work requiring the skill allocated to you table. What reflective questions and other learning development strategies would you use to help that student?

Scenario 2 – an academic has identified a need for a group session relating to your tables' skill.

What would a session run by you as a Learning Developer look like? What activities might you use to enable all students to develop that skill?

Group 1 (Data management and digital skills)

If teaching a tool, more likely to lab-based or online

- Doing / practice the actual tool
- Using own device (nightmare to deliver but works!)
- Relevant practice tasks aligned to learning / assessment
- Demo[nstration]

If teaching capabilities rather tools:

- Need to be conscious of inequities if students choosing different tech
- Ethics, risks, values explored
- Challenge of our capacity to keep learning new tools
- Infographics / data visualisations
- Teach transfer of learning – not every tool
- Digital preservation
- Open tech and interoperability to avoid loss
- Open data
- Carbon cost of digital tech and devices
- Citizen science tools / practices
- Teamworking online

Group 2 (Project management)

- Where are you now? What do you think you need to get to?
- Work in pairs
- Trying a role
- Students' passions – research / lead
- Tasks e.g. switching lights off, plastic / kettle [usage] – posters?
- Reflecting on how did it go

Editorial comments

This presentation is innovative as it draws attention of our Learning Development community, to build climate change awareness and sustainability skills into our practices, alongside efforts elsewhere in our institutions. The workshop was well received, and the

summary of the workshop is a well-written and useful resource. It outlines the need to not silo off learning development to academic skills only spheres and in fact, embrace new areas such as transferable skills development, and wider societal awareness. This is an important discussion for the learning development community, perhaps alongside academic course leaders and employability services, regarding where these critical skills development activities sit in the modern university. As noted in the participant reflections, integrating sustainability into curricula has served to raise awareness and profile and yet it remains a theme that has received limited attention across the sector since Winter et al (2015) explored ways forward. This raises the question whether the need to respond to COVID 19 has shifted focus, just at the point when, as the presenters state, there is growing interest in HE around how students are taught about climate change.

Authors' reflection

For both of us, it was the first time that we attended an ALDinHE conference - and one of the first face-to-face conferences we had participated in after the pandemic. When we saw that education for sustainability was one of the conference themes we took the opportunity to build on our research about teaching climate change. We had already begun to consider how learning developers might engage with climate change in an LD@3 online session and blog. We felt the conference would be a great opportunity to engage more with the learning developer community: not only through our own session but by attending other workshops and talks to think about synergies with other topics. The keynote presentation from Wray Irwin set the scene clearly about the importance of the sustainability agenda for all graduates. Student interest in environmental issues, and their desire both to see more teaching about sustainability and for their institutions to model sustainable practices is a good example of the 'Changemaker' philosophy in action. We felt this framed our contribution to the conference well as a key issue in higher education.

However, we noticed from the conference agenda that there were few other sessions engaging in the theme of sustainability. This in itself is an interesting reflection - why has the issue not yet gained higher prominence among learning developers? There have been recent high-profile publications from Advance HE and the Quality Assurance Agency (2021) on education for sustainability teaching, on-going interest in teaching sustainability from student groups (e.g. SOS 2021) and the international COP26 climate conference in

the UK. It also marks seven years since Winter and associates (2015) published their paper on the links between education for sustainability and learning development in JLDHE. Winter and associates (2015) argue that by identifying the similarities between the two disciplines - such as emphasis on critical thinking, disciplinary ways of knowing, and belief in the value of embedded approaches - there is potential for increased collaboration and the development of innovative practices. In the immediate term, the limited engagement perhaps reflected the disruption caused by Covid-19 and the urgent demands to move support online and supporting students' wellbeing. Yet there is little evidence since 2015 that the learning development community has embraced thinking about education for sustainability. A search of literature published since Winter and associates (2015) in JLDHE found no papers on the theme; the one citation of Winter and associates in JLDHE referenced their definition of learning development. A reflection from one of our workshop participants notes disappointment with relatively modest attendance at our session, and contributes to our reflection that the learning developer community take steps to more positively embrace education for sustainability in their practice.

During the discussions in our workshop, one theme that emerged was around learning developers adopting an environmentally sustainable approach to their own practice. It was noted by participants that typical approaches to LD use a lot of paper and physical resources. There is an opportunity for LDs to model more sustainable behaviours themselves. We thought this was encouraging, because it shows a willingness to engage with the sustainability agenda and awareness of the impact of their own professional practice. However, we would reflect back with caution that IT equipment and online LD that maybe used as a 'green' alternative to paper carries its own embodied carbon footprint. A broader contribution to sustainable approaches to LD need to go beyond this to equipping students with the skills to engage in sustainability.

Our workshop highlighted that education for sustainability requires learning developers to adapt to supporting students in a range of advanced and complex skills that are not traditionally part of learning developers work. During the activities, participants focused on two skills that we had identified as important for teaching about climate and sustainability (Cross & Congreve, 2021). In Activity 1, they worked up approaches that they would take as a learning developer to develop students' data management and digital skills, and project management skills. The suggestions from the two groups are shown in the Audience Reflections section. The two groups highlighted approaches such as: critically

reflective questions; analysing past experiences; skills audits; and independent learning. We note that these approaches to supporting students are not unique to sustainability and are very much part of every-day LD practice. Our overall reflection here is that there is great potential for LDs to contribute significantly to education for sustainability by using well-established and current approaches. Climate change and other sustainability challenges can help LDs frame skills development, highlighting to students the value of advanced skills for their future careers and adding authenticity and relevance to examples.

In Activity 2, participants were asked to design sessions to deliver to individual students and whole classes. This reflects the two distinct ways learning developers work with students. We framed this discussion around scaffolding, as we were interested in seeing how LDs could envisage developing higher-order skills over time. Our previous work had suggested that effective scaffolding was essential for enabling students to apply higher-order skills to their assignments. Group 2 suggested some sustainability-focused projects that students could undertake to develop their project management skills, and reflected on the opportunity to move students to different group roles (e.g. leader, researcher) to explore their strengths. Group 1 highlighted some of the challenges that LDs would encounter when developing digital skills such as: students using their own devices; equity of access to hardware and software; use of free and open software and data; and the on-going challenge of learning new technology. The thoughts of both groups suggest LDs would benefit from professional development around sustainability skills, in particular in the digital space. Workshop participants also emphasised the need for ways of sharing good practice that co-embeds sustainability and LD work, resources that are lacking at the moment.

Our final reflection on the session is, in effect, a call for action. The growing interest in education for sustainability throughout higher education means that this is critical moment for learning developers. Learning developers are uniquely placed to make important contribution to the debates about how best to equip students with the skills they need to help address key societal challenges. Our discussions so far suggest that learning developers can embed sustainability skills in their current practices, and engaging with climate change in their university is an opportunity to reaffirm the value of effective learning development in their institution. We hope this session will form the basis of

growing interest from learning developers in supporting their institutions respond to the climate crisis and sustainability action.

Acknowledgements

References

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Author details

Iain Cross is Associate Professor in Education Development at the London School of Hygiene and Tropical Medicine, prior to which he was Associate Dean for Learning and Teaching at St Mary's University, Twickenham. He is involved in projects around assessment, digital skills, and sustainability.

Alina Congreve is an experienced academic with over 18 years' experience in higher education. Currently an independent consultant on research, policy analysis and education

design, she is committed to supporting students' development of problem-solving, innovation, collaboration and creative thinking.