



MFCO Working Paper Series

SPECIAL ISSUE: ENVIRONMENTS, SPACES AND TRANSFORMATIONS

Seeking spaces to transform learning about sustainability in higher education

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Abstract: Advocates for sustainability education in higher education have argued that our dominant approaches to learning and teaching require fundamental revision. Initiatives intent on greening the curriculum and greening the campus have not yet sufficiently confronted learning and teaching practices. The study discussed here is currently taking place at one New Zealand university. Research partners share aspirations to explore transformations from traditional hierarchical conventions of student/teacher, and to empower students to direct how higher education operates in the context of sustainability education. In this paper we reflect on our search for spaces of opportunity beyond the curriculum. Notably, we consider a range of challenges we have encountered and strategies we have adopted to find our way. We speculate, with the benefit of some early data, on whether teacher-centred approaches can transform to a student-centred and student-directed model of learning.

Introduction

Advocates for sustainability education in higher education have argued that our dominant approaches to learning and teaching require fundamental revision. Discipline-centred approaches to learning allow for highly specialised knowledge creation, yet prove inadequate in addressing the level of interdependence between disciplines required to

enable students to engage with the big picture (Bardaglio 2007). The interconnections, ambiguities and complexity that characterise sustainability as an evolving process need to be fostered through teaching that deepens students' learning (Stirling 2004). The most ardent advocates for cross-disciplinary approaches in sustainability learning argue that the higher educational experience should transcend learning, teaching and curriculum (Stelljes & Allen-Gil 2009). Higher education should additionally include 'the way in which an institution conducts research, manages operations, designs facilities, purchases materials, invests resources, and interacts with local communities' (Hignite 2006, p. 17). Such cohesion in approaches to sustainability appears currently to be the exception rather than the norm in institutional practice—more likely are institutional approaches referred to as 'greening the campus and curriculum'.

Greening campus operations generally involves addressing matters of infrastructure, strategic planning and community outreach with environmentally friendly practices. Savelyeva and McKenna (2011) reflect how greening the campus can create a result-oriented culture of sustainability, measuring progress by quantifiable targets and outputs. Without coherent sustainability curricula, educational opportunities tend towards sustainability courses and capacity building workshops (Savelyeva & McKenna 2011). Underlying knowledge of sustainability remains within small networks or disciplinary groups. Whilst these groups may form vibrant and active communities, the communities remain disparate and limited in terms of educational impact.

A common teaching response to formalise sustainability learning is greening the curriculum. Some critics of curriculum greening point to a failure to embed sustainability in favour of 'adding-on' to the curriculum (Sterling 2004; Savelyeva & McKenna 2011). Others go further, referring to multi-disciplinary programmes such as environmental studies, as creating a sustainability ghetto (Bardaglio 2007). Integrated approaches to learning and teaching sustainability are preferable for many in higher education. Teaching focuses on equipping students with critical and ethical reasoning to engage with sustainability knowledge and understanding in their studies, and affect everyday thinking and civic engagement beyond the academy (Holmberg et al 2008; Stelljes & Allen-Gil 2009). By attending to affective dimensions of learning, teaching supports students to develop values, attitudes and behaviours from their studies that enable praxis, applying knowledge of

sustainability to sustainable ends (Shephard 2010). Discussing students' perspectives, Stelljes and Allen-Gil (2009) consider how behaviour change should be emphasised through engaged learning within communities. Personal connections, they argue, facilitate greater understanding for students that their learning and lives occur within complex and interrelated systems. As a result of active, experiential or applied sustainability learning opportunities in higher education, students are likely to better understand their role in sustainability issues. Moreover, connections between curriculum and local place-based issues foster students' capacity to reflect on their positions as global citizens.

The strategic direction for sustainability learning at this university lies within a commitment to foster students' environmental literacy, global perspective and cultural understanding. Such a broadly defined approach can potentially facilitate creative and flexible opportunities for sustainability learning, yet can equally find opportunities for embedding sustainability learning lost amongst competing departmental, curricular and assessment demands. The approach adopted by this research project is to circumnavigate formal curricular processes. Research partners share aspirations to explore transformations from traditional hierarchical conventions of student/teacher, and to empower students to direct how higher education operates in the context of sustainability education. The project aims to investigate the opportunities, advantages and barriers to establishing a student-devised and -led sustainability programme.

The emergence of a project

The early growth of this project was reliant on social connections. The project instigator (a member of academic staff) approached colleagues across all Divisions known to be interested in sustainability education. An email urged spreading the word. However, in the end those staff members who expressed interest were connected in some way to the project instigator. At the same time, the project instigator approached a student employed by the university in a student liaison role. This student was a member of a youth sustainability organisation on campus, and in turn, informed people she knew who might be interested. Curious parties attended an initial meeting about student empowerment and sustainability in November 2012, and achieved common agreement to support a funding application from the university.

A student empowerment project initiated by a professor could be read as paradoxical. Convention would suggest asymmetric power relations between the institution and students (Freeman et al. 2013). A growing body of research and higher education practice, however, determines the importance of partnership to student engagement processes (Trowler & Trowler 2010). Having secured a grant from the university to run a small exploratory and scoping research project, students and staff involved at this early stage decided to investigate how far we could stretch our exploration of student empowerment.

A particular educational model provided initial inspiration for this research project. In 2013, one member of the research team visited the Centre for Environment and Development Studies (CEMUS) at Uppsala University, Sweden. CEMUS' philosophy recognises students as 'intellectual equals' and aims to place students at the centre of the educational process (Stoddard et al. 2012). The Centre develops student agency by employing students as course co-ordinators to work in close collaboration with teachers, researchers administrators and community partners. Transcending conventional teacher/learner boundaries, student plan, run and evaluate interdisciplinary courses for sustainable development both at under- and post-graduate levels. More specifically, the course co-ordinator role involves planning the course outline; including the reading list and inviting guest lecturers, leading seminars, and administrative responsibilities. Throughout the process of course planning, delivery and examination, a reference group (teachers, researchers, and practitioners in the field) support course co-ordinators, offering feedback and suggestions (Education CEMUS n.d.). Reference groups additionally have responsibility for examination of the credit-bearing courses, currently ranging from 7.5 to 30 credits.

What appears to set CEMUS apart from other sustainable education provision is the "student-driven" structure of its courses. Interdisciplinary initiatives in education are available in many institutions internationally, as are innovative learning and teaching practices (Stoddard et al. 2012). According to the course overview literature available from CEMUS, not all courses appear to have a practical/applied learning component, nor are courses necessarily focused on place-based issues (Uppsala University n.d). Some former CEMUS students identified as unique a combination of questioning the status quo through the curriculum and through student-driven, participatory education (Rydeman & Forsberg

2011). The students additionally praised their learning at the Centre as complimenting other aspects of their studies and providing inspiration for professional lives. Interestingly, in terms of whether the students saw themselves as intellectual equals, Rydeman and Forsberg noted, 'Those students who run courses and seminars are unable to put the same "weight" behind their words as an educated teacher, lecturer or professor' (2011 p. 39). Paradoxically, while academics and researchers at CEMUS may advocate for intellectual parity between teachers and learners, the same perceptions might not apply between students and their peers.

From the offset, we knew that developing a student-led course, such as those at CEMUS, in the timeframe and budget afforded us by the university learning and teaching grant would be unfeasible. In effect, the project had eight months in which to recruit students and support them, however required, to develop some form of sustainability learning. Rather than focusing on what the learning format could be, we were keen to see what could be achieved by creating a space for opportunity. Staff involved in the project had numerous ideas about how sustainability learning could be constituted in new ways beyond what was currently on offer at the university. The project emphasis, therefore, needed to focus on the process of creating opportunities and not the outcome space. We envisaged students creating opportunities for others to learn about sustainability issues that mattered to them. The students involved in the project at that stage, were equally inspired by the CEMUS model of student-driven learning, but were realistic about the constraints of time and university commitment.

Project design

The project design, illustrated by Figure 1, was built around four aims.

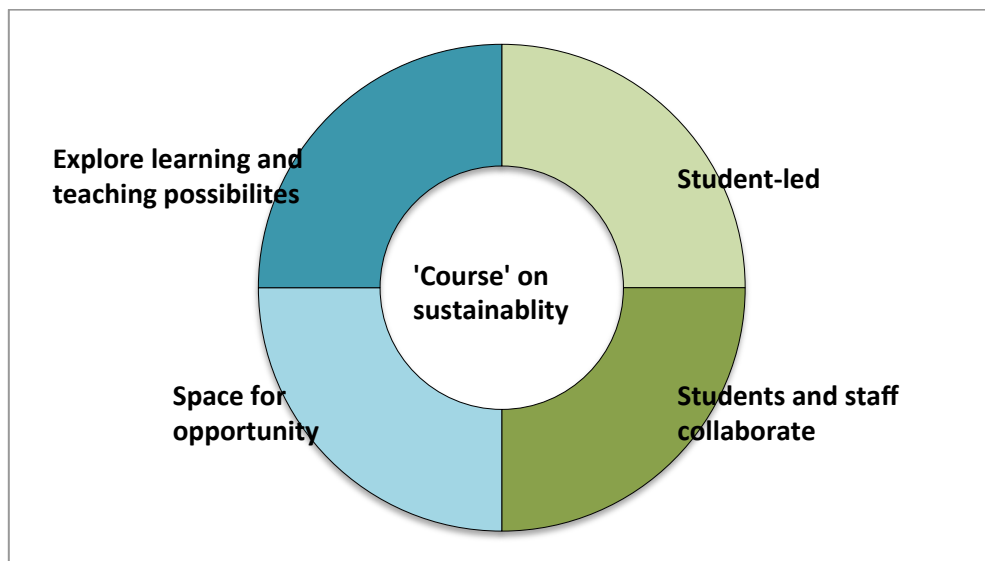


Figure 1. Project design.

We sought to find out more about the ways in which students would like to learn about sustainability at the university, and what were the sustainability issues that mattered to them. Where possible we felt that students should take a lead on the planning, delivery and evaluation of any sustainability activities devised during the project (loosely referred to as a 'course'). Like CEMUS, we endeavoured to adopt the position of students as intellectual equals on the matter of sustainability (Stoddard et al. 2012). Similarly, we recognised that navigating the structures of the university might require support. Students' capacity to become active agents in leading sustainability might at times require additional input or assistance from staff. The nature of these interactions should as much as possible remain collaborative to avoid 'capture' from staff. The avoidance of capture necessitated providing space for student leadership to create yet more space for opportunity.

We felt optimistic about the research design, but wary. A major concern for all, and subsequent research question was: "will we be able to find and empower students to be involved?" We do not as yet find ourselves in a position to reflect on whether we have sufficiently empowered students to lead sustainability learning through this project, since

the research is ongoing. We shall reflect instead on our early experiences of encouraging students to participate in this project.

Methodology

The complex and situated nature of this project called for a research approach that could accommodate cyclical reflection, formative feedback and change within the research process. Altrichter et al. (2002) describe action research as a self-reflective spiral of plan, act, observe, reflect, revised plan and so forth. Furthermore, action research provides a disciplined approach that starts with a small group of collaborators who share a desire to improve practice (Cohen, Manion & Morrison 2013). The short timeframe and the particular student membership at the start of the project inclined us towards action research over participatory action research (PAR). Whilst the two approaches share many similarities, the main difference is an intention in PAR to combine an ideological and political debate to achieve emancipation for a particular group (Cohen et al. 2013). Student members who joined the project at an early stage described already being active in sustainability and in the university. These individuals were seeking other experiences from their involvement in the project and rejected suggestions of being completely powerless within the institution.

Consistent with our project values of student empowerment and partnership, the research team consists of both staff and student members. At the time of writing, the number of student members is greater than the number of academic staff. Collaborators become both social agents and participants of action research, in this instance, a self-critical community (Altrichter et al. 2002) whose assumptions about empowerment, engagement and sustainability provide data for reflection, analysis and change. A challenge of adopting a flexible and fluid research process is maintaining rigorous data collection.

Action research accepts a broad definition of what counts as evidence or data (Cohen, Manion & Morrison 2007). Data in this project comprises meeting notes, email conversations, Facebook postings, Skype calls and more general observations or personal reflections. We have gathered data as participants join and leave the project using a series of semi-structured individual or group interviews. The researcher, who has conducted all interviews, has summarised interview conversations as extensive notes and offered

participants their interview summary notes for member checks; most have accepted the offer. The research team devise questions reflecting the contingencies of the project at any particular moment, and accordingly support a formative process of project revision. We have adapted the analytic matrices of Stake (1967) as a means of recording and analysing data from multiple and varied sources, and to indicate subsequent impacts or outcomes on participants and project direction. Stake originally intended that the matrices utilise both description and judgement in the process of education evaluation. For our purposes, we apply a general inductive approach (Thomas 2006) to analysis.

The general inductive approach, like Stake's (1967) work, provides a method for analysis of qualitative evaluation data (Thomas 2006). Dominant or frequent themes emerge from the data as a result of researchers' repeated reading. A process of revision ensues that includes researchers attending to themes that may otherwise be considered unanticipated or non-representative. The purpose of the approach is to develop an explanation or theory of the 'underlying structures of experience or processes' (Thomas 2006, p. 238) identified in the data. This paper addresses two major themes that were evident during the early stage of project evolution concerned with engaging students (other themes are discussed elsewhere). Notably, we will focus on the appeal to students of sustainability matters and the effectiveness of our attempts to present project opportunities as something different from the norm.

The challenges of being 'green'

The common ground for all participants in this study, whether student or staff, was personal alignment to sustainability values, and a recognition that sustainability learning and teaching at our university needs to change. Data from individual interviews and open meetings highlighted that individual meanings of sustainability varied broadly. Perceptions of how to address sustainability issues were equally multiple and differing. Yet self-perception of being green can be pivotal as a primary driver of participation in sustainability initiatives on campus (Figuerdo & Tsarenko 2013).

During the early stage of the project discussed in this paper, 24 students had offered their contact details as an expression of interest to participate in the project; an additional six students had joined the Facebook group instead. Students had become familiar with the

project through a series of open meetings and a drop-in session at the student union recreation centre. Amongst this student body, six had taken up opportunities to be actively involved with the project, all of whom were members of other student or youth sustainability groups on campus. Figuerdo and Tsarenko's (2013) assertion that identifying as green is a prerequisite for participation in campus initiatives reflected early student membership of the project, yet presented several challenges too.

Four staff participants reflected on the possibility that the project would only interest students already active in the green scene. For Staff 4, this scenario implied potential for capture by student activist groups, thereby narrowing the space for possibility and opportunity for a more diverse range of student interests. Five staff members during individual interviews proposed that being seen as green could act as a deterrent for some students, who associate being green with a 'hippy' culture. While the six students active in the project agreed that a green identity can appear marginal to some students, all reflected on the more general challenge of getting students motivated to become involved with sustainability initiatives and practices.

Student 3 spoke of capturing students' interest in sustainability. Referring to prior Skype calls with New Zealand students who had attended CEMUS, Student 3 considered a conversation describing how particular students at CEMUS had chosen the course as a perceived easy option. Student 3 recalled being told that for some individuals, their interest in sustainable issues developed and gained more meaning as a result of their participation in the CEMUS course. Student 3 deliberated whether 'supporting students to build a sense of purpose' about sustainability at this university might activate more students on campus. Students 10 and 2 suggested a need for their peers to gain skills to enhance their involvement in sustainability, and considered what should be easy steps to initiate behavioural change. Student 10 drew on examples of daily life in a student flat: 'In my flat we have a problem of waste management between the seven of us who live there. We collect a lot of rubbish and it's difficult to dispose of'. Student 12 also contemplated on why more students did not embed simple changes in daily life. Student 8, however, felt that plenty of information was readily available from numerous sources for students to self-educate on everyday sustainability practices: 'there's a lot of information available. We know how to do things better'. Explanations for perceived student apathy resonated

amongst all students interviewed and are summarised by Student 8 as ‘sometimes it is a matter of time or financial constraints, or the will power to cross the threshold and make the change.’ Campus inaction emerged as a theme that characterised student participants’ perceptions of wider engagement in sustainability at the university.

During an interview, Staff 9 recounted a conversation with third year students that offered alternative insight to students’ thoughts about sustainability. The students in this particular class had completed an applied learning activity with a sustainability theme. Staff 9 reported when asked their opinions of the activity the students had complained of being bored by sustainability matters: ‘They made it very clear to me that they were tired of sustainability because they had done it all the way through school’. The students felt that they were sufficiently educated on the matter and already undertook sustainable practices in daily life. On the surface, this activity could be described as offering meaningful learning; the lecturer had integrated sustainability issues in an applied learning context. Furthermore, students appeared to judge that they had prerequisite sustainability knowledge for the task. The issue seemed to be the sustainability theme, or a case of ‘sustainability-fatigue’.

A ‘knowledge/commitment gap’ appears to be a common feature of student engagement with sustainability on campus. Emanuel and Adams (2011) conducted a study of student perceptions regarding sustainability in two universities in two different USA states. Students were likely to recognise the importance of campus sustainability and more broadly sustainability on a community and global scale, yet demonstrated low willingness to personally participate in campus initiatives. Emanuel and Adams suggested the importance to students of a model of sustainability leadership demonstrated by the institution.

Student 2 reflected during interview that sustainable practices undertaken by this university ‘are not always obvious to students’. Given the thoughts of Emanuel and Adams (2011) on the importance of institutional leadership for students to commit to sustainable behaviours, a perceived lack of institutional leadership could be problematic for growing a culture of sustainability at this university. The process of universities implementing sustainable practices has potential to enhance students’ understanding of the concept, so long as universities communicate their commitment to sustainability effectively (Figuerdo & Tsarenko 2013). Well executed communication can create dialogue and develop

transformative understanding of sustainability to influence student behaviour. A multi-pronged approach that draws on institution-led and student-led initiatives further mediates student willingness to participate in programmes. Whilst proposing self-perception of being green is antecedent to students' willingness to participate in sustainability programmes, Figuerdo and Tsarenko (2013) acknowledge that other factors such as opportunity, leadership and communication mitigate to enhance student engagement. The challenge suggested by student and staff participants in this project, was how to engage student willingness to participate if students do not identify with green initiatives?

Promising something different

Students involved in this project from the start were known to be involved in youth or campus sustainability groups. For Students 3, 8 and 11 it was important that any sustainability activities devised and delivered from this project should be mindful of activities that the different sustainability groups on campus were already engaged in, albeit from different perspectives. The project team had discussed during a meeting the possibilities of linking with existing sustainability groups to create synergies across campus. Student 3 had reservations, and expressed concern at how the various sustainability groups might respond to a project that claimed to offer student leadership in sustainability for other students. At the time, the researcher wrote the following reflection on the this finding:

Some environmental groups may not be comfortable with having Environment Week being 'captured' by the project. One possible reason behind this concern could be that the appeal student groups offer to other students is that they operate outside the perceived legitimacy of the university (even if they access funding indirectly from the university). Assurances regarding student empowerment may not be sufficient to interest or reassure some student groups, who may value their autonomy over synergies with a university project. (Researcher)

This paradox is noteworthy. A number of sustainability groups receive funding from the university student services association to provide sustainability societies, initiatives and events for students. These groups have vibrant and dynamic cultures, although overall membership remains relatively small. Yet all three students reflected that the groups tend

to operate autonomously from one another, illustrating the situation of well-informed yet limited networks as described by Savelyeva and McKenna (2011).

Student 8 offered an alternative perspective more focused on not replicating what was already available on campus in terms of action for sustainability. Ironically, Student 8 felt that some existing student groups were not active enough and inclined towards discussing issues. Separately, Student 11 agreed. The idea of space for opportunity was what appealed to Students 8 and 11 about this project, providing new conditions for possibility and action.

The original application for university funding for the research stated 'an exploration of how to use the infrastructure of an educational institution to enable people to do things that they probably want to do but have never found the opportunity to do'. The challenge was how to communicate this sense of possibility without prescriptively defining what the possibilities could be. The project team decided to host a drop-in information session at the student association recreation centre to publicise the project, a venue deemed to be student-friendly and widely known. The purpose of the drop-in was to attract students to the project by providing an opportunity to meet and chat with participants already involved. We sought also to gain a sense of some of the sustainability issues that concerned students. The session was timed over the lunchbreak and we provided refreshments. We were keen to emphasise relational engagement that could be achieved through hospitality and personal contact. How then to promote our first recruitment event?

Students in the project team listed the following set of descriptors as potential gains for any students getting involved; leadership, creativity, empowerment, multi-disciplinary, networks/connections, fun for credits, consciousness and inspiring solutions. Conscious of the formality of some descriptors, the group sought ways to 'mainstream' the ideas to engage a diverse body of student participants (Staff 20). We posted a question to the broader project interest group inviting suggestions. Staff participants 6, 24 and 25 were in agreement with their responses to offer students a little initial guidance of what could be possible. Staff 25 offered the following, 'an easy way to show the possibilities and to promote/advertise/clarify the concept through examples is to show them how cool Uppsala's [CEMUS] project is'. To promote engagement sustainability issues to students, we

resorted to re-framing the project aims as primarily an opportunity to do something different.

The resultant ideas for publicity were sent to the media arm of the student association to design a poster to promote the drop-in. The poster was widely distributed around campus, posted on Facebook, and sent as a PowerPoint slide to academic staff recorded as supporters to promote during lectures. The student association offered to upload the poster to their own Facebook page; a member of staff indicated that the page had 16,000 followers and was likely to reach around 20% of the audience. The following poster was circulated far and wide (see Figure 2).



Figure 2. Poster promoting student information session.

The design of Figure 2 was problematic for a number of staff participants in the project, although student reactions were positive. Several staff participants felt the poster was too text heavy. Staff 9 wondered whether the poster communicated a clear sense of purpose, both concerning the event and the project, despite our endeavours to achieve clarity. Staff 25 agreed, and additionally questioned whether a university-related logo might confuse students by creating an unclear association to a university programme provider.

The drop-in received a steady stream of student visitors. Most had heard about the session via their lectures, a few mentioned the posters, and some had happened by and decided to find out more. By the end of the session we had gained an additional 23 student contacts expressing interest, and a list of sustainability themes and activities that students

were interested in. With student numbers this low we wondered how to create a dialogue as envisaged by Figuerdo and Tsarenko (2013). We questioned whether we had communicated our intentions and purpose effectively enough, and whether the promise of something different was too vague to be engaging.

Conclusion

Student leadership in learning and teaching sustainability represents a venture into unknown territory at our university. We are not alone. Trowler and Trowler (2010) reflect that while the construct of student engagement appears met with 'uncritical acceptance' in higher education, there are a limited number of studies and scant evidence base on engaging students in the design and delivery of their education. The implications for our exploration and research mean that we have little to draw upon and much to learn and share.

In this paper we have reflected on the early stage of the project's evolution. Our adoption of an action research approach has meant that we have undertaken an iterative process of plan, action and revise. Whilst all members of the project have shared a commitment to sustainability and student empowerment, common ground has not always meant commonality.

A power imbalance is implicit in the suggestion that the project enable students to use the infrastructure of the university to try out new learning and teaching ideas, despite the espoused aim of student empowerment. The institutional space is complex, at times may seem impenetrable, and using the infrastructure often requires permission. Definitions of student empowerment under these conditions are important if students are to feel they can demonstrate leadership, and staff can feel able to support students without accusation of project capture. In the absence of shared understanding there is potential for paralysis and the project floundering. The project has at times felt like an environment of self-policing, where neither student nor staff participants have been sure what to expect or how to act. As the project moves forwards, this tension requires further self-critical analysis within the action research context.

The CEMUS model, while a source of inspiration for this project, operates in far more formalised and structured ways. The use of 'student-driven' learning to describe the Centre's educational philosophy may represent a subtle difference to student-led learning. Student-staff collaboration is inherent to CEMUS practice, enabling student co-ordinators to focus on curriculum planning, delivery and evaluation. Students are driving the learning within an existing structure rather than leading the learning from an open space of opportunity. These differences add to the debate of what constitutes student empowerment and how in this project staff can more actively enable leadership by students to engage others on sustainability issues.

Notional ideas of the student and sustainability emerged from staff and students. Some staff members in the project associated the challenges of student engagement with self-perceptions of being green as a marginal identity. Student members of the project reflected on past experiences of apparent student apathy in sustainability matters. Without direct comments from students who chose not to get involved in the project, we are left considering the deliberations of those who did get involved. Our findings concur with other studies of student engagement in sustainability that students' green identities do not automatically lead to sustainability praxis. We may have encountered a knowledge/commitment gap (Emanuel & Adams 2011), influenced to some degree by a lack of visible institutional role model. Participants have offered green-fatigue or simply not knowing where to start with addressing sustainability issues as explanations. Many students indicated that they find the enormity of sustainability overwhelming or under-defined. Alternatively, we may have assumed too much from a project that appeared to commit to little.

Many students may have remained unconvinced or unsure of the promise to do something differently advanced by the project. The absence of a cultural model of student leadership in learning and teaching sustainability at this university infers that students engaging with this project may need to take a leap of faith. This situation underlines the responsibility of the project, and in the longer term hopefully the institution, to commit to providing students with the conditions and opportunities to develop student leadership in sustainability as a learning, teaching and campus norm.

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