It is a pleasure to introduce this booklet celebrating ten years of work of the Centre for Sustainable Futures. I hope you find its contents as inspiring and encouraging as I have.

The vignettes included in this booklet of course can only tell part of the sustainability education story at Plymouth. Countless stories of ‘sustainability education in motion’ could be told from before, and certainly since, the Centre for Sustainable Futures was established in 2005. I am delighted that this review highlights the integrated approach we have sought to take; with key strands including innovation in teaching and learning practice, pioneering leadership and enterprise, creative approaches to staff development, and the pursuit of new learning spaces, linking wherever possible to research and to operations and campus. All such aspects are important and necessary to achieving our goals as outlined in the Plymouth University 2020 corporate strategy, and its recently published Sustainability Strategy:

Learning from sustainability best practice within Plymouth University and across the world, our students will be able to engage positively with sustainability issues affecting their personal and professional lives in a rapidly changing world.

Equally it is right that in this booklet we mark the achievements of individual members of staff within the Centre for Sustainable Futures itself and across the University as a whole such as colleagues who recently won EAUC Green Gown Awards. But what is essential is that this booklet has at its heart the students themselves; their voices and their learning experiences. Students such as Jen and Rachel Manning, just two of the remarkable young people studying here at the University who represent a very real hope for a more sustainable future.

Our task – to work in partnership with students, the wider community and each other in pursuit of apt, vibrant and engaging sustainability education – is more vital than ever. I am delighted that this publication not only beacons some of the excellent work that has been conducted in this area but also reveals the exciting trajectory that the Centre for Sustainable Futures is now on for helping us to achieve our sustainability education aspirations in the years ahead.
INTRODUCTION
THE CENTRE FOR SUSTAINABLE FUTURES: A TEN YEAR JOURNEY

Stephen Sterling

The UK’s Plymouth University is working toward a comprehensive integration of sustainability practice and teaching ... with a strong focus on sustainability since 2005. (Clugston and Calder 2014, 123)

This mention of Plymouth in an international book on education, young people and futures is welcome recognition of work that has been a key part of the University’s life for more than a decade. As 2015 dawns, the University is widely recognised as a sector leader in re-thinking and re-orienting its policy and practice towards sustainability, recognising that our graduates face a rapidly changing world characterised by complexity and uncertainty, risk and opportunity. Whilst the journey towards the more ‘sustainable university’ in terms of teaching and learning, research, campus management, governance and community is never complete, Plymouth can be proud to be counted amongst the few pioneering universities that have led the way nationally and internationally.

The story started in 2005. Coinciding with the start of the UN Decade of Education for Sustainable Development, the Centre for Sustainable Futures (CSF) was founded as one of the University’s four Centres for Excellence in Teaching and Learning (CETLs), funded by HEFCE for a five-year period. Building on the University’s already strong track record in sustainability related research and disciplines, the CSF began a programme of systemic change and support, development and research that has been adopted by many other institutions: Campus, Curriculum, Community and Culture (see diagram below).

The CSF’s considerable challenge was to develop a strategy and activities that could transform the University towards a state where sustainability permeated the curricula, physical campus, and the whole institutional culture, as well as influencing relations with immediate environs, and the wider region, and contributing to similar work taking place in the sector. It was clear from the start that there was considerable enthusiasm and commitment throughout the University for delivering this ambitious target, which allowed significant work to arise. This included the development of one of the first whole institutional sustainability strategies in the sector, and the establishment of over 40 Centre Fellows across all schools and faculties, working on the development of new modules and programmes, pedagogic research, student projects, and professional development. The hard work paid off. For example, in 2011, Plymouth won a prestigious Green Gown Award for 'Whole Institutional Change', while the People and Planet Green League has recognised the University as the overall sector leader in sustainability for the years since the scheme was first established in 2007.

In 2014, the University won no fewer than three Green Gown Awards, cementing its reputation in the field. To find out more about sustainability education and the work of the CSF, visit: https://www.plymouth.ac.uk/your-university/sustainability/sustainability-education

The ‘C’ Model at Plymouth University

The ‘C’ Model at Plymouth University

The CSF has provided the sustainability education team within the University’s teaching and learning support, pedagogic research and education development grouping. This wider grouping consists of staff working together within the three core teams of the Pedagogic Research Institute and Observatory (PedRIO), the CSF and Education Development.

The CSF has played a distinctive role in researching change and pedagogy in relation to sustainability, and in producing sector-leading publications which have influenced policy and practice across higher education both at home and internationally. These include a book of edited chapters written in collaboration with the Higher Education Academy (HEA) subject centres on curriculum and sustainability (Jones et al 2010); a guidebook to introducing sustainability into teaching and learning commissioned by the HEA (Sterling and Transformative Leadership for Sustainable Futures Intergenerational Learning Hollingshead, B.P .,(2014 )) and a recent guide produced by some of the world’s leading research universities states: Universities can play a significant role in forging the path to a sustainable future.... Given the nature and scope of global sustainability challenges, there is a real responsibility and urgency associated with tackling operational sustainability within our universities. (IARU 2014, 4)

It is good to enter 2015 knowing that Plymouth is already well down this path. This publication gives a small taster of some of the initiatives that mark out our work, and for which the CSF can claim some credit in its supporting, encouraging, facilitating and brokered role over recent months and years.

To find out more about sustainability education and the work of the CSF, visit: https://www.plymouth.ac.uk/your-university/sustainability/sustainability-education

References

“FOR ME, THE CSF HAS PROVED INVALUABLE FOR PUTTING, AND KEEPING, ESD ON THE MAP AT PLYMOUTH.”

PAUL MURRAY
ASSOCIATE PROFESSOR IN SUSTAINABLE CONSTRUCTION AND SURVEYING. SCHOOL OF ARCHITECTURE, DESIGN AND ENVIRONMENT
INNOVATION IN PRACTICE

CHALLENGE-BASED LEARNING: SUSTAINABILITY EDUCATION IN NURSING

Janet Richardson and Jane Grose

Recently, the Environmental Association for Universities and Colleges (EAUC) presented a Green Gown Award to Plymouth University for its innovative approach to addressing issues of sustainability in its provision of nursing education and training.

The starting point for this curriculum innovation project was an awareness of nurses having limited knowledge of sustainability and being poorly equipped to deal with the challenges of working in a global context. Climate change, natural disasters and geopolitical unrest increasingly represent real threats that may cause disruption to the supply of resources used in everyday clinical practice. These global points of crisis raise the question of how university education can best prepare its students for navigating the complexity of the modern world and its geopolitical and economic systems. With a specific focus upon healthcare, the objective became to explore practically how to embed sustainability education into the nursing curriculum more effectively.

This innovation in practice project sought to make sustainability relevant to nursing by focusing on resource use and design alternatives. Based on research on sustainable procurement and waste management in healthcare, this curriculum innovation prioritised items that have significant impact on nurses and service delivery but are vulnerable to supply disruption owing to global sustainability challenges such as climate change (for example cotton used for bed sheets and surgical dressings) and plastic used for items such as syringes and intravenous administration equipment). Teaching staff used this research to produce challenge-based sustainability scenarios that were embedded into clinical skills sessions that sought to focus discussion by trainee nurses on mitigating and adapting to possible supply chain interruptions.

Recognising the importance of interdisciplinary approaches within sustainability education, this initiative has involved collaboration between the University’s School of Nursing and Midwifery and School of Architecture, Design and Environment. Through this multidisciplinary approach, design students have been involved in challenging conventional ways of thinking about healthcare practice.

Within the sustainability scenario sessions, the design students have observed their nursing counterparts as they conduct clinical procedures as part of their skills training. They have also participated with the nursing students in discussions around these healthcare items and issues about waste, with the insights gained from this collaboration leading to the creation of a range of design solutions, to product and packaging concepts at local and industry-wide levels. Some of these design solutions have been developed as prototypes and tested by nursing students and academics (for example a device to re-seal packaging and a re-usable clinical dressing pack, both providing opportunities for nursing staff to practise skills whilst at the same time reducing waste). Some of the most successful designs are now in the commercialisation process of the University.

Over 300 nursing students and 30 design students have taken part thus far in this curriculum innovation project. It has demonstrated significant improvements in knowledge about, and attitudes towards, sustainability. The main learning from this project has been in the positive engagement of nursing students in discussing sustainability issues and in particular the following points:

- Changes in students’ knowledge and attitudes towards sustainability can be achieved when teaching and learning is interactive and relevant to practice/real-world settings;
- Shared/interdisciplinary learning provides students with a deeper and broader understanding of the sustainability challenges faced by different disciplines;
- Ensuring that the teaching materials were evidence-based, and evaluating the new teaching and learning approach from the start were important aspects of the project.

Recognising the potential of using challenge-based scenario learning approaches in sustainability education is leading to future opportunities both externally and internally. The project leaders Janet Richardson and Jane Grose are now working with colleagues in Germany, Spain, Switzerland and the Netherlands via Erasmus and have just been awarded EU-funding (€448,000) to develop sustainability teaching and learning materials in nursing (NurSus project). Internally to the University, the positive evaluations have resulted in this approach being embedded in the nursing and midwifery curriculum and extended to other health professionals. Replication of this challenge-based learning approach is also being supported through the development of the Health and Sustainability Skills e-tool, and a CSF/PedRIO sustainability curriculum development grant enabling research into how this pedagogical approach could work within other disciplines.

The success of this project demonstrates just one of the many innovative ways in which the academic community at Plymouth has embraced the challenge and opportunity of embedding sustainability in the curriculum through the use of new pedagogies.

As a consequence of the collaboration with 3D Design, the HEaRT (Health, Environment and Resources Toolkit) training pack has been developed for wider use in the higher education and healthcare sector.

To find out more email: nursus@plymouth.ac.uk

Please also visit this short video of Nursing Sustainability by Design at http://youtu.be/zIFT2Dbg08o

“AT PLYMOUTH, WE PRIDE OURSELVES ON THE WAY WE HAVE EMBEDDED SUSTAINABILITY ACROSS THE CURRICULUM, AND NOWHERE IS THAT BETTER DEMONSTRATED THAN WITH OUR NURSING TEAM.”

PROFESSOR DAVID COSLETT
DEPUTY VICE-CHANCELLOR
INNOVATION IN PRACTICE
INTERDISCIPLINARY APPROACHES TO SUSTAINABILITY EDUCATION: LEARNING FROM THE STUDENT VOICE IN THE PLYMOUTH BUSINESS SCHOOL

Paul Warwick, Lynne Wyness and Hugh Conway

Monitoring and evaluation of the United Nations Decade of Education for Sustainable Development (UNESCO, 2012) have highlighted that effective ESD teaching practice involves interdisciplinary, deliberative and active learning approaches (UNESCO, 2012: 25–26). A key role of the Centre for Sustainable Futures (CSF) is to support academic staff in pioneering these pedagogical approaches. Towards this aim, the CSF is exploring pedagogical research methods that capture student experiences on sustainability modules in order to inspire staff development and prompt future change in practice.

An example of this in action has been a collaboration with staff on a new undergraduate ESD module within the Plymouth Business School (PBS). Headed up by Hugh Conway, this Year 2 optional module seeks to be interdisciplinary by having sessions taught by a team of seven staff, looking at the concept of sustainable organisations through a range of fields of expertise (for example marketing, human resources, economics, business operations, accountancy and entrepreneurial). This module seeks to offer a deliberative and active pedagogy, with each teacher delivering a block of three sessions with opportunity for student discussion, world cafes, problem-based learning, collaborative group work (including an assessed poster presentation), and independent study (freedom to choose focus and format of second written assignment).

On paper, the course is an excellent exemplification of what the ESD literature is calling for, but what have been the students’ experiences? The CSF has worked in partnership with the module staff team through a broad participatory action research strategy. Data collection techniques used to capture students’ perspectives on their experiences have drawn specifically from lesson study research methodology. The student focus groups, end-of-module evaluation workshops and one-to-one interviews have revealed a number of important insights into students’ experiences including:

Comparatively, there is something qualitatively different about this module. Students across each data collection activity spoke positively about the deliberative and active pedagogy of the course and the positive impact this has had on their learning:

“Feels refreshing to learn from other students rather than just being told what is right or wrong by a lecturer.”

“Out of my six modules this year, this is the one I’ve learnt the most on because it’s more for what you want to do rather than you’ve got to learn this for exams.”

The dialogic nature of teaching is changing patterns of student engagement. The students participating in the research spoke of a number of impacts upon their learning approaches:

“You don’t necessarily realise that you’re learning at the time, but then when you go away from it, you’ve got what you’ve subconsciously absorbed from the session. It’s actually quite amazing compared to what I would have had if I had been taking notes. Because it would have been on the notes, not in my brain.”

“I always refer back to that one lecture when we had the debate ... and just the way he ran that by not talking and letting us carry on and I’ve just never been in a lecture like that before. ... I think that’s going to be like a lecture that you’ll always remember throughout your life.”

For some the course has been transformative. A number of participating students spoke of the module being a life-changing experience with a newfound interest in aspects of sustainability:

“For me initially – I won’t lie – the first thing that attracted me to the course was that it was 100% coursework and I thought, ‘I’m not good at exams and it’s the perfect thing.’ I always had a little bit of inking for sustainability but didn’t really know much about it ... I feel that now I have so much more knowledge. Things that I’d heard about but didn’t really know what they were, like circular economy ... I wouldn’t have had a clue what that was before. Now I feel that I’ve got such a big knowledge and so many things I can talk about.”

“Almost makes you feel contempt for current practices and norms and for the allowance for this wasteful practice to continue and progress so far. It has encouraged the pool of thought that it is through collective action rather than dependence on businesses/government/organisations to change and that a cultural shift in regards to sustainability is imperative.”

The findings of this research have been used to provide inspiration for future change in practice by the module team in partnership with the CSF. Areas of consideration for future improvement include the following:

1. In the early stages, how can we provide more of an introduction to, and support for, students accessing, this new interactive, collaborative and issue-based pedagogy? In particular how can we equip them to learn note-making approaches suitable for dialogic engagement?

2. How can we respond to students requesting that the module’s real-world learning objectives require more real-world learning spaces – how can community engagement be enhanced further?

3. How can we address the critical tension between the course wanting to be interdisciplinary and also valuing student autonomy? Drawing from Biggs and Tang (2007), is there a need in this module to constructively re-align the main assessment task in order that it is more fit for purpose with regard to capturing the intended interdisciplinary learning outcomes?

4. How can a new workload model be explored that recognises the importance of a ‘learner facilitator’ on team teaching-based modules who serves as a regularly present staff member, helping students to make the links between, and transitions across, one disciplinary area to the next?

Despite the limitations of this particular action research/lesson study project, it points towards a new CSF educational development service for generating evidence of good practice and ideas for future improvement in teaching and learning. It is a pedagogical research approach that is essentially based upon partnership with module teaching staff and students in order to advance interdisciplinary, deliberative and active pedagogical approaches. And in so doing the hope is that, collectively, we will be able to discover new ways and means to effectively ‘walk the talk’ of ESD.

To find out more about this innovative course within the Plymouth Business School contact:

Hugh Conway
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References


Many universities are increasingly committed to infusing sustainability ideas and practices into their campus and curricular activities, and both policy-makers and students are contributing to debates on how this can be accomplished. Yet there are many barriers to achieving this aspiration including lack of understanding of sustainability, controversy over its inclusion in HE, limited time in the curriculum, and perceived irrelevance to certain disciplines. Despite the proliferation of league tables and awards, it is also extremely difficult to get an accurate sense of the extent to which sustainability ideas are becoming embedded in university curricula and campus processes across the sector. Our research has focused on some of the unseen aspects of sustainability that form part of the ‘hidden curriculum’: the things that students learn despite not being explicitly taught, and that arguably form a crucial part of the student experience of sustainability in our universities.

Lecturers – whenever they design a programme, a module, or an individual teaching session – decide what to put in and what to leave out. Such decisions may be based on a range of considerations: what is thought to be essential for a degree in their discipline; the research interests and expertise of the staff; cornering a niche market; and the time and resources available. But these choices may also be influenced by other factors of which lecturers are not aware. Indeed, research at Plymouth suggests that lecturers’ underlying attitudes and values are a crucial influence: a survey of university lecturers revealed that there was no statistical relationship between the belief that sustainability was relevant to their subject, and the discipline in which they taught. This seems counter-intuitive; you might suppose that a lecturer in geography or environmental science would be more likely to see sustainability as relevant to their teaching than a lecturer in maths. Yet the only correlation found was between the belief that sustainability was important in general and a belief that it was relevant to their discipline. It appears that people who are generally committed to sustainability see it as relevant to their subject and include it in their teaching – irrespective of which discipline they are in.

Another example of the impact of the hidden curriculum can be seen by analysing discussions on controversial environmental topics in the classroom. A semi-ethnographic study revealed that, although teachers felt strongly that they should present a balanced or neutral view of a controversial environmental issue, in practice this was extremely problematic. The teachers were wary about imposing their views on students and talked about the risks of promoting a particular world-view, yet in the context of classroom discussions, a position of neutrality was untenable. Because of their pedagogic beliefs, teachers’ interventions were often implicit, and included mechanisms such as asking rhetorical questions or controlling students’ participation in the discussion. Even as a supposedly neutral chair, it proved quite possible for the tutors to influence classroom discussion by controlling turns at speaking, and thus manipulate the direction of the debate. Despite the covert nature of these interventions, it was clear that the teacher’s own views were being revealed, albeit unintentionally.

One final example of the hidden curriculum at work can be seen in research that explored the impact of the institutional and campus environments on what students learn about sustainability. This piece of research used video diaries and video-interviews to explore students’ experiences of sustainability on campus. The project illustrates the ways in which what happens outside the classroom may challenge what students are formally taught about sustainability in the curriculum. Using students as researchers, this project provided a first-hand account of their views, rather than those of academics or sustainability managers. The research illustrated the potential dissonance between messages communicated unintentionally by the university to its students (through, for example, visible energy wastage and lack of interpretive information about sustainability initiatives), and those in the curriculum and external communications. It demonstrated the importance of a holistic approach to sustainability, permeating all aspects of university life across curriculum and campus. These research vignettes illustrate various ways in which the hidden curriculum impacts on what students learn about sustainability in HE. It is clear that, as far as sustainability is concerned, the overt curriculum is just the tip of the iceberg. In order to move towards a holistic model of the ‘sustainable university’, all aspects of the visible and hidden curriculum need to be considered and enhanced.

For more on the hidden curriculum and these research studies, please see:
LEADERSHIP AND ENTERPRISE

STARTING A NEW CONVERSATION BETWEEN ENTERPRISE EDUCATION AND SUSTAINABILITY EDUCATION

Lynne Wyness

The inclusion of a new category of ‘Enterprise’ in the 2014 Green Gown Awards, run by the Environmental Association of Universities and Colleges (EAUC), is indicative of the pivotal role that enterprise and entrepreneurial thinking have to play in the shift towards a sustainable future. Enterprise and sustainability are two strong narratives that run through Plymouth University, and as ‘the enterprise university’, it is fitting that the University’s Peninsula Dental Social Enterprise was the winner of this new category:

An outstanding example of innovation, enterprise and collaboration with communities through curriculum and structure. The project had real impact on students and the community for the benefit of all those in the community.

(Green Gown Winners 2014)

Enterprise and sustainability, and the two ‘educations’ that promote them, Enterprise Education (EE) and Education for Sustainable Development (ESD), have shared similar trajectories in Higher Education (HE) over recent years, edging their way in from the margins to more validated positions within mainstream agendas. The two fields share many similar characteristics: both provoke debates over their ‘definitions’ and both have suffered from a bolt-on approach where regular learning activities have been ‘retrofit’ with an element of sustainability or enterprise. Both are ‘future-facing’ and share similar pedagogical approaches to this end – systemic thinking, experiential and active learning, participatory approaches, and analytical problem-solving. Yet, the two fields have remained largely bound to their respective camps from where, until very recently, they have spied the other with a degree of mutual suspicion. A new research partnership between the Centre for Sustainable Futures and the Futures Entrepreneurship Centre aims to bring these two educational agendas into closer partnership.

Lynne Wyness (CSF) and Paul Jones (Futures) are speaking with both sustainability and entrepreneurship educators, it is clear that the distinct ‘languages’ of both fields are often in tension – how the ‘languages’ (and speakers) of each field might be brought into meaningful and productive dialogue is an important question. What, and how, might sustainability educators learn from those well versed in entrepreneurship, and vice versa? How might educators within the CSF and Futures’ communities of practice bring the two fields together more explicitly and purposefully within Plymouth University? This research continues to address these questions and, through seeking closer alignment between the twin agendas of sustainability and enterprise, has the potential to inform and enrich the delivery of transformative learning opportunities for students at Plymouth University.

For more information on this research project please contact: lynne.wyness@plymouth.ac.uk

References

In her review of the United Nations Decade of Education for Sustainable Development, Daniella Tilbury (2011) cites over 20 studies from scholars worldwide that highlight the alignment of sustainability education with active and participatory pedagogical approaches. It is argued that, through the active learning processes of conceptualising, planning, acting and reflecting, students are better able to engage critically and creatively with the values, skills and knowledge requirements of sustainable development.

Giving priority to engaging students as partners in sustainability education is therefore a key objective of the University’s Sustainability Strategy. Towards this aim, in 2014 the Centre for Sustainable Futures (CSF) launched the Future Leaders Programme. This programme enables students to offer advice on current sustainability education practice and utilise their creative enterprising spirit for leading their own innovation.

The Future Leaders Programme is facilitated by Paul Warwick and, in its first year, has attracted the interest of 22 students. Through participating in a series of ESD workshops they have explored key competencies such as collaborative leadership, critical literacy and personal creativity. The extra-curricular nature of the programme affords the space for each meeting to be built upon the interests, progress and experiences of the students rather than be pre-determined. This means the students’ questions, ideas and actions essentially guide the flightpath of the programme.

Sustainability issues of concern the students chose to focus on in 2014 included waste management, ecological literacy and outdoor learning. Students took the initiative to consult with:

- the University’s Sustainability Manager
- Natural Connections – a project based at Plymouth University advancing outdoor learning in schools nationally
- Plymouth Growing Futures – a University initiative to engage students and staff in sustainable development through gardening and biodiversity work on campus.

They have acted as advisors to:

- the WEEE project – a curriculum development initiative based around a new recycling facility on campus with a particular focus on electrical equipment
- the CSF – with regard to how Plymouth University introduces students to Education for Sustainable Development within the induction week and how this could be done in ways that are more interactive and experiential.

The students have also created their own social network site for sustainability education and devised innovative educational action projects centred on:

- improving pre-school children’s access to the natural environment through a gardening area
- outdoor learning through creating a ‘wildwalk’ activity
- campaigning for improved recycling facilities within halls of residence
- providing an ESD teaching input into the University’s summer school.

The Future Leaders Programme is seeking to explore in a practical way a new learning space for students to develop what Wayman (2009) refers to as ‘informed purposeful action’. This is where critical thinking is combined with the creative act of interpreting preferable images of the future. The collaborative dimension of the programme is seeking to help students to develop the social consciousness and civic wisdom necessary for engaging with a sense of hope and collective efficacy around pressing sustainability challenges, whether at personal, community or institutional levels. In so doing, the Future Leaders Programme is also aligned with the recent Higher Education Academy’s guidance on student engagement which recognises a range of different levels through which students can participate actively in shaping their own learning (Healey et al 2014).

To find out more about the Future Leaders Programme please contact: paul.warwick@plymouth.ac.uk

To find out more read:


“I JUST WANTED TO SAY THANK YOU SO MUCH FOR STARTING THE FUTURE LEADERS PROGRAMME. I FEEL LIKE IT HAS BEEN ONE OF MY FAVOURITE PARTS OF UNIVERSITY.”

STUDENT PARTICIPANT
One mechanism that the Centre for Sustainable Futures and PedRIO use to support the development of sustainability education at Plymouth University is the Sustainability Curriculum Development grant scheme. In 2014 one of the projects supported in this way was an extra-curricular leadership development programme led by Michelle Virgo. This was developed in partnership with Victoria Hurth in the Plymouth Business School (PBS) and in association with the Graduate School of Management. Collaborative Leadership for Sustainability (CLS) links Plymouth University students with other leaders for sustainability as part of an international action research programme led by Enrico Wensing from the University of the Virgin Islands. This programme uses a social learning process to build leadership, optimise collaboration and develop community resilience in the face of sustainability challenges such as climate change adaptation, poverty reduction, and global health and wellbeing.

The aim of CLS is to develop in students a set of competencies considered to be most equitable with generating sustainable futures across cultures. In order for students to experience a diverse collaborative community, the class cohort consists of a mix of Plymouth undergraduates and members of the wider community who are leading for sustainability in some way. In the first pilot of this programme 20 participants enrolled, seven of whom were non-University students. The CLS programme consists of ten interactive workshops on themes such as connectedness, leadership, identity, cross-cultural understanding and collaboration. Each workshop uses a variety of resources and teaching approaches, including the use of webinars to weave in contributions by international partners. The extra-curricular nature of the CLS pilot has enabled each workshop to be tailored in response to the participants’ interests and experiences.

In broadly meeting its learning objectives, students have evaluated specific aspects of the course as beneficial, including:

- an enjoyment of group discussions and activities and a conducive atmosphere for expressing points of view and personal values
- an appreciation of the opportunity to understand different types of leadership with a good mix of theory and practice
- a valuing of the opportunity to learn and work with a wide range of people from different backgrounds, from both within and outside of the University.

Areas for consideration in future development include not only the intention to develop an accredited version but also, for future iterations of CLS, to address student needs through:

- enhanced introduction to the action learning pedagogical approach via experiential engagement
- shorter workshops, timetabled during the day rather than in the evenings
- improved use of video conferencing technologies such as through the GoToMeeting and GoToWebinar conferencing facilities which allow a remote desktop connection to present a conference with screen sharing built in on any lectern PC.

Currently work is taking place to develop this programme internationally as part of an integrated framework for research-based social learning and collaborative action initiatives for sustainability. This is emerging as the centrepiece of a global knowledge integration hub for social sustainability research. Partners on this emergent project include researchers at universities in North America, Central America, Africa and Europe. Consequently, the co-curricular programme that will be offered through the Talent Hub at Plymouth in the next academic year will run in parallel with one taking place with the Inuit students and community innow of Nunatsiavut, Canada.

To find out more about CLS contact: michelle.virgo@plymouth.ac.uk

References

“COLLABORATION IS A TRANSFORMATIVE PROCESS AND IT HAS DEEPENED MY UNDERSTANDING OF HOW I FUNCTION, WORK AND SUSTAIN MY OWN WELLBEING AND [IT HAS] ALSO GIVEN ME SPACE TO REFLECT MORE ON MY ROLE AS AN INDIVIDUAL AND THE SENSE OF PURPOSE I WANT TO SUPPORT IN OTHERS.”

CLS STUDENT
STAFF DEVELOPMENT

EMBEDDING SUSTAINABILITY EDUCATION WITHIN CORE EDUCATIONAL DEVELOPMENT

Jennie Winter and Debby Cotton

One of the key initiatives that is indicative of Plymouth University’s leadership around sustainability education is its embedding across all areas of University activity. This includes the work of the Educational Development (ED) team, who offer accredited courses, resources and continuing professional development for academic and support staff across the University. An illustration of this approach, which has been recently cited internationally as an example of good practice and is relatively uncommon in universities, is the inclusion of sustainability education within the main professional training courses offered in-house by the University (Tilbury et al. 2014). In particular, the University’s educational development course for new academic staff, the Postgraduate Certificate in Academic Practice, includes a sustainability education module option. This module was created by Jennie Winter and is facilitated through the University’s Educational Development team in the Pedagogic Research Institute and Observatory (PedRIO). The aim is to provide an introduction to sustainability education with the opportunity for academics to embed new knowledge in disciplinary practice, reflect on their own practice and make changes to what they do. The premise is that the University is a beacon of good sustainability practice and houses an emergent community that is embedding sustainability across different areas of University life: education, procurement, estates and management.

The module attempts to pull these seemingly disparate dimensions together in efforts to reconceptualise and advance sustainability education and literacy using the UNECE framework for Competences in Education for Sustainable Development as a mapping tool at the end of the module, to assess what has been learnt and where to focus ongoing CPD. In terms of delivery, the module is modelled on a flipped classroom format. Academics access the online element prior to the ‘classroom’ time which is spent exploring the University campus and community, discussing new knowledge and ideas with experts in marketing, procurement, estates and curriculum and, of course, with students. The online element is open-access and can be located at: http://wete.plymouth.ac.uk/play.php?template_id=292.

The Educational Development team and PedRIO have also developed a number of resources designed to enhance sustainability education in universities. Useful examples include the SEDA publication, ‘Putting the ‘S’ into ED: Education for Sustainable Development in Educational Development’ (Cotton et al 2012), which advises other similar teams on embedding ESD into ED work and two ‘7 steps resources’: ‘Embedding Sustainability in your Teaching’ and ‘Using the Campus for Learning about Sustainability’. These resources are designed to provide introductory guidance and practical pointers to academics who want to start making their teaching more sustainability orientated and are available online at: https://www1.plymouth.ac.uk/ouruniversity/teachlearn/sustainresources/Documents/7steps.aspx.

Nationally, one of the ED team has also been involved in the writing group that formulated the QAA guidance on ESD for higher education providers, thus emphasising the importance of sustainability education being embedded in both quality assurance and quality enhancement processes (QAA/HEA 2014).

Underpinning the design of all our teaching, information and guidance is the pedagogic research undertaken by the ED/PedRIO team. Recent projects on sustainability have explored a number of themes including:

- the significance of the hidden curriculum; exploring what students learn indirectly about sustainability whilst at university (see pages 9-10).
- transformative learning; investigating the types of teaching that enable transformation in the way students think about and respond to sustainability, as well as barriers and drivers to transformative learning in modern universities.
- informal learning and sustainability education; researching learning about sustainability that takes place within and beyond the classroom, particularly how the wider university community and campus impact on students’ understanding of sustainability as a lived experience.
- energy literacy; exploring the cognitive, affective and conative dimensions of energy literacy in students across the UK and Europe, with a view to enhancing our understanding of how students make energy-related decisions.

This research underpins our development work and contributes more widely to pedagogic understanding of sustainability education in HE. It has been well received by the sustainability education community both in the UK and abroad. The ED and PedRIO teams at Plymouth continue to strive for excellent teaching that contributes to furthering sustainability through influencing the work of academics and student learning. We are always open to conversations about how to enhance practice. If you have any questions about the content of this article or would simply like to know more, then please get in touch with the authors.

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References


UNESCO recognises one of five fundamental types of learning within Education for Sustainable Development (ESD) to be ‘learning to transform oneself and society’ (UNESCO, 2011). This highlights that lifestyle-induced environmental and social justice threats require students to be supported in transformative ways of thinking and acting. Transformative learning approaches have stemmed from the work of adult education scholars such as Jack Mezirow, and also have strong links to the critical literacy work of Paulo Freire. It is a learning process that engages students in not simply maintaining the societal status quo, or even improving the rationality of current practices, but fundamentally reconsidering core values, assumptions and attitudes and reflexively exploring new, more sustainable ways of perceiving and acting (Sterling, 2011). Through these transformative processes, ESD is seen to encourage rigorous autonomous thinking and empower learners to consider making a vital contribution towards achieving lifestyles based on justice, equality, integrity and respect.

To provide authentic transformative learning opportunities for our students requires a radical rethink of both our staff development processes and the design of learning spaces within Higher Education Institutions. Establishing new communities of inquiry and practice in this area has been a key objective of the Centre for Sustainable Futures (CSF), recognising the importance of facilitating collaboration across the disciplines where staff are able to share their ideas and experiences. This has led to a number of staff development initiatives, two of which are described below.

Through a CSF Curriculum Development grant award, an interdisciplinary group of staff from Plymouth University came together to explore experientially transformative learning. Drawing from the University’s long-standing partnership with Schumacher College, these staff helped to devise a residential training event based at Darlington that focused on theory and practice in transformative learning. The participating staff Helen Bowstead (Learning Development), Simon Bradbury (Architecture), Roger Cutting (Education), Christie Pritchard (Learning Development), Janet Richardson (Nursing) and Andy Whiteford (Social Work) have since formed an action learning set to explore the design of alternative learning spaces on campus that are conducive to transformative learning. One outcome of this has been some of the group teaming up with Alona Martinez Perez in Architecture to act as clients for a masters students, commissioned with the challenge of re-designing a series of learning spaces on campus. It is also hoped that future staff development events will be run based upon the lessons learnt from this first residential training event at Schumacher College.

Another means of supporting staff in exploring collaboratively how they can develop sustainability education within their teaching has been the CSF Innovation in Pedagogy Cafés. This series of informal cross-disciplinary workshops and seminars, now in their second year, provides opportunities for staff to creatively explore innovative practice ideas with both internal and national/international presenters. The aim of these cafe-styled events is to introduce new resources and thinking in ESD, whilst enabling participants to network and share their own ideas in a supportive and dialogic learning environment. To date, a diversity of topics have been covered including:

- systems thinking and systems games
- the use of controversial issues in teaching
- sustainable communities and student engagement
- the use of simulations and visual materials
- alternative learning spaces on campus

Guest presenters have included colleagues from Australia and New Zealand as well as educators developing new practice in NGO and social enterprise contexts within the region. The cafes have also involved learning from colleagues in other HEIs in the UK, for example Ian Cook from Exeter University, who gave a presentation with a group of his students about the ‘followthehings’ project at a cafe exploring critical thinking skills. His project has involved creating a website where students work as researchers to share information about how everyday items are sourced and made within a globalised context.

The aim for each of the cafes is for participants to be inspired to collaborate and explore creatively how they can apply and adapt these pedagogical approaches to sustainability education in their own practice. In the case of the ‘followthehings’ cafe, Helen Bowstead has included a similar critical thinking project in a second-year elective module on English for Academic Purposes here at Plymouth University. This module requires international students to research an everyday product of their choosing and to give an assessed presentation on their findings. Through being given the opportunity to share their often first-hand experiences of the social, environmental and economic impacts of an everyday product, Helen has discovered that this encourages students to develop a greater understanding of the global complexity of sustainability issues.

To find out more about the Innovation in Pedagogy Cafés run by the CSF visit: https://www.plymouth.ac.uk/your-university/sustainability/sustainability-education/news-and-events

References

STAFF DEVELOPMENT
DEVELOPING COMMUNITIES OF INQUIRY IN SUSTAINABILITY EDUCATION

Paul Warwick

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References
NEW LEARNING SPACES

BIODIVERSITY AND CAMPUSS USE FOR SUSTAINABILITY EDUCATION

Samantha Price, Caroline Mikhail and Paul Warwick

In support of the University’s current Sustainability Strategy and its ambition to realise the concept of the sustainable university, in 2014 the Centre for Sustainable Futures (CSF) and the University’s Sustainability Manager Samantha Price set up an advisory Biodiversity and Campus Use Group.

This group seeks to build upon significant previous work undertaken in 2011 when an initial biodiversity policy and action plan were created by a group of pioneering staff at Plymouth. The new group’s specific aim is to support the University in achieving its sustainability goals by reviewing this biodiversity policy and regularly presenting action points to the Sustainability Executive.

As a result, a number of innovative projects have already begun to explore the potential of using the campus as an alternative learning space. For example, Plymouth Growing Futures (PGF) co-ordinated by Caroline Mikhail, is currently engaging staff, students and community members in a range of sustainability education opportunities around growing on campus. This group aims to improve the aesthetic and biodiversity of the University’s green spaces, including the Physic Garden. Further aims of PGF include broadening and deepening outdoor learning for sustainability in higher education and in an urban context, enhancing the campus experience, and providing people with the chance to foster their efficacy and make a difference to their environment.

Volunteers from PGF take part in weekly gardening sessions and attend workshops to improve their horticultural knowledge and skills. PGF encourages students to use the project to support their academic work and enhance their employability skills. PGF-linked learning opportunities have also been incorporated into curriculum studies such as social work students working with service users through gardening projects on campus.

This biodiversity and campus use initiative recognises the vital importance at this time of the adoption of a joined up approach between campus management efforts to maximise biodiversity and sustainable learning initiatives that are striving to make greater educational use of the campus and local environments.

To find out more about the biodiversity and campus use group please contact:
samantha.price@plymouth.ac.uk

To find out more about the Project please contact:
caroline.mikhail@plymouth.ac.uk or visit https://www.facebook.com/ GrowingFuturesPlymouthUniversitysSecretGarden

PEOPLE IN FOCUS

NATIONAL TEACHING FELLOW 2014
STEPHEN STERLING

Professor Stephen Sterling has been at Plymouth University for nearly ten years, joining the then fledgling Centre for Sustainable Futures (CSF) from its beginning in 2005, when it was established as a Centre for Excellence in Teaching and Learning (CETL) with HEFCE funding. With an already established reputation in environmental and sustainability education, Stephen stepped into a Reader role and was responsible for curriculum change work as well as extending the CSF’s influence across the sector. The latter work led to his being invited to be the Higher Education Academy’s first Senior Advisor for Education for Sustainable Development, a role he maintained for some five years alongside his Plymouth post.

His varied career has included roles as teacher, deputy director of a national educational body, consultant (particularly to WWF-UK), freelance academic, academic tutor at London South Bank University (LSBU), and latterly, of course, Professor at Plymouth University. During this time, he has built a substantial reputation as an eminent thought leader on the theory and practice of sustainability education, and has greatly influenced theory and practice in the field including advising UNESCO during the ten years of the Decade of Education for Sustainable Development.

The overarching research question that has guided Stephen’s work is what education’s response should be to the global issues of sustainability that are increasingly characterising our times. He is passionate about innovation and change in education, teaching, and learning which will give graduates the competencies to cope and manage in a rapidly changing and uncertain world, and he has worked at every level from policy to practice accordingly. Stephen’s credits include co-founding/writing the first masters programme in the UK on education for sustainability, co-editing the first book published anywhere on this field, and writing/leading on another three key books in the area, as well as the HEA-commissioned Future Fit Framework which has inspired academics and whole universities to embrace sustainability in their teaching. He has a particular interest in systems thinking and transformational learning and has championed these ideas and associated pedagogies through his resource materials Linking Thinking, student/staff workshops, and research, both locally and internationally.

Towards the end of the CSF’s CETL years in 2010, Stephen was appointed as the University’s Head of Education for Sustainable Development, and has led the CSF in its curriculum change and support work. Since early 2013, he has also been chair of the University’s cross-institutional Sustainability Executive Group which oversees Plymouth’s sustainability performance across the board, and has championed a strategic ‘whole institutional’ approach to sustainability, in line with best practice nationally and internationally. His role at the University was recognised through winning the Vice-Chancellor’s Special Award for Outstanding Contribution in 2012, while nationally his influential role across the sector was rewarded through winning a 2014 Higher Education Academy National Teaching Fellowship.

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“PROFESSOR STEPHEN STERLING HAS MADE AN OUTSTANDING AND INCALCULABLE CONTRIBUTION TO THE ACADEMIC DEVELOPMENT OF EDUCATION FOR SUSTAINABILITY AND INDEED HIS SCHOLARSHIP, RESEARCH, AND TEACHING HAVE BEEN GROUND-BREAKING IN SO MANY DIFFERENT WAYS.”

PROFESSOR ROS WADE
Two postgraduate students Jen and Rachel Manning are helping to create the Student Ambassadors in Sustainability Education scheme, a new ‘students as partners’ initiative hosted by the Centre for Sustainable Futures (CSF). Representing the next generation of sustainability education leaders, here Jen and Rachel provide an insight into their life stories, work and hopes for the future.

When do you think your interest in sustainability began?

JEN: Growing up on a farm in North Devon I have always held a passion for the outdoor environment; my childhood years were spent exploring every inch of our land. As I grew older my desire for adventure grew and I also developed a love for travelling, where I have seen and been part of many incredible experiences. It was these travels, which opened my eyes to the challenges faced by today’s society both on a national and international scale, that led me to where I am today.

RACHEL: Being sisters we both grew up on the farm together, exploring and spending most of our time outdoors, which is where I think an interest in sustainability stemmed from. At college I studied Outdoor Education at Petroc, where my love for the outdoors grew and a passion for reconnecting children and adults to nature developed. As with Jen, I have also been fortunate enough to travel, where I learnt a lot about myself and the world. My educational experiences and travelling helped me realise that I wanted to be part of the bigger picture and help people develop in a way that brings about positive change in our communities and environments.

How has Plymouth University provided a sustainability education for you?

JEN: When do you think your interest in sustainability began?

RACHEL: I wanted to continue down the outdoor education path, so I went to study a Foundation Degree in outdoor education. The rewards I received from teaching people outdoor sports were amazing. To gain a bachelor’s degree I completed a third year in Education Studies at Plymouth University, where I could tailor my learning around sustainability. I also became involved in volunteering on a fantastic sustainable education project at Plymstock School called BEES (bespoke engaging education services), where we use aquaponics as an educational tool to reconnect disengaged children to their learning.

JEN: I am currently studying an MSc in Learning for Sustainability at Plymouth. I am also lucky enough to still be working on the BEES project. Jen and I are both involved with the CSF through the Student Ambassadors in Sustainability Education, and through this, I am currently looking forward to working on creating a student manifesto on sustainability to add a vital student voice to the University’s strategic vision. I feel that it is important that the students at the University have a greater understanding as to why the University they are studying at is one of the most sustainable universities in the world.

What are your hopes for the future?

JEN: What are you doing right now?

RACHEL: I am currently studying an MSc in Sustainable Environmental Management. From this MSc I have developed further interests in sustainability, in particular community engagement, education for sustainability, and renewable energy. Through the CSF I am now helping to create the Student Ambassadors in Sustainability Education initiative that will help to provide a student perspective and an innovation/enterprise dimension on how the CSF can take its Sustainability Education work forwards. Through this, I have already started to get involved in working with the Students’ Union on piloting a national ESD accreditation scheme for HEIs.

JEN: My love for the outdoors led me to study a BSc in Conservation Biology at Plymouth University, and I realised I wanted to be part of protecting the environment that I love so much for future generations. My degree led on to a further interest in sustainable agriculture and in the summer of 2013 I was lucky to be involved in some research on agricultural systems at North Wyke Farm, part of Rothamsted Research. Whilst studying, I also became involved with the Future Leaders Programme, which sparked a further interest in sustainable development, so on completion of my degree I realised I was not ready to stop learning and wanted to take my interest in sustainability further.

RACHEL: Having gained a degree, I felt that to open up even more opportunities to work in ESD I needed to take my education a bit further. So I am now studying towards an MSc in Learning for Sustainability at Plymouth. I am also lucky enough to still be working on the BEES project. Jen and I are both involved with the CSF through the Student Ambassadors in Sustainability Education, and through this, I am currently looking forward to working on creating a student manifesto on sustainability to add a vital student voice to the University’s strategic vision. I feel that it is important that the students at the University have a greater understanding as to why the University they are studying at is one of the most sustainable universities in the world.

What are your hopes for the future?

JEN: How has Plymouth University provided a sustainability education for you?

RACHEL: It is my dream to bring about a change in schools where education fully engages children with their learning and is tailored to their needs, to help create learning initiatives where children can connect with the environments and communities in which they live. I feel education is an important tool and needs to be developed in a way that is better suited to helping children and young people realise their potential.

JEN: I have a passion for sustainable environmental management and it is my ambition to change people’s behaviours and attitudes towards the environment through education for sustainability and community engagement, to influence how the younger generation view what surrounds them so they can start making positive changes as they themselves grow and develop.
At the time of writing, Plymouth University has been recognised by the People & Planet Green League as being the top overall performer since the Green League began in 2007. This is of course great news and means that the University is well placed to continue to play a leading role in sustainability education in Higher Education. While this work and excellent initiatives around sustainability education across the sector continue to expand, the challenge to HE to respond sufficiently to current and future global conditions that will affect graduates’ lives remains considerable.

With the closing of the United Nations Decade of Education for Sustainable Development, it is encouraging to note that UNESCO has maintained its commitment to this area of educational reform through the recently announced ‘Global Action Programme on ESD’. Launched at the World Conference on ESD in Aichi-Nagoya, Japan (November 2014) this provides a detailed roadmap of how academic institutions can play their role in meeting a series of priority action areas that cover:

- advancing policy: mainstream ESD into both education and sustainable development policies, to create an enabling environment for ESD and to bring about systemic change
- transforming learning and training environments: integrate sustainability principles into education and training settings
- building capacities of educators and trainers: increase the capacities of educators and trainers to more effectively deliver ESD
- empowering and mobilising youth: multiply ESD actions among youth
- accelerating sustainable solutions at local level: at community level, scale up ESD programmes and multi-stakeholder ESD networks

UNESCO’s Global Action Plan for sustainability education, covering the period to 2019, calls for universities to lead on the sustainability agenda and embrace ‘whole institutional change’. This is something that Plymouth University, supported by the CSF and its networks of colleagues and students across the institution, has been working on for nearly ten years. We hope this booklet has given a taster of at least some of this work, and will help inspire more colleagues and students to become engaged in forging new pathways of hope and opportunity in future years.

THE ROAD AHEAD
Paul Warwick and Stephen Sterling

THE CENTRE FOR SUSTAINABLE FUTURES

The Centre for Sustainable Futures (CSF) works across the University to help develop teaching and learning opportunities that capture students’ interest in sustainability and engage them in active learning for a better world. The CSF seeks to inspire and support lecturers, programme leaders, professional staff, and students to think about how sustainability can become integral to the learning experience at Plymouth. Sustainability challenges are best tackled from an interdisciplinary perspective, so students learn to see the ‘big picture’ and to work collaboratively towards solutions. The CSF works to enthuse, empower, and enable staff to be creative and bring sustainability into the very heart of the student experience.

Making Plymouth the ‘sustainable university’ is up to all of us. If you have a spark of interest in building a more sustainable future through your work or studies at the University, then the staff team at the CSF would love to hear from you.

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