

The role of students as change agents in identifying perceived barriers and gateways to achieving sustainability at a UK university

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Abstract

In order for students to be effective change agents they must possess critical thinking skills. Acting as change agents to conduct an awareness audit of environmental performance using a blend of participatory action research (PAR) and communities of practice (CoP) students were provided with an appropriate setting to develop such critical thinking. A small cohort of third year sustainability students on combined honours degree programs conducted interviews with staff and students over a six week period. The students received minimal support once the audit was under way and were left to encounter and overcome barriers and problems as part of the learning process. Students identified that 'other priorities', 'finance', 'time' and 'lack of knowledge and awareness' were perceived to be the most formidable barriers to fostering sustainability amongst staff. Students perceived 'lack of knowledge and awareness' and 'internal discord' as the main barriers. Students expressed feelings of 'empowerment', 'achievement', 'ownership', 'enthusiasm' and 'responsibility', and almost collectively felt that they had made a contribution to engendering an atmosphere of positive change. We feel that this approach is applicable to institutions who are in the preliminary stages of fostering sustainability or to those whose initiatives have lost momentum. As problem based learning it is also a useful tool for allowing students to develop critical thinking skills.

Key words: *students, change agents, barriers, sustainability, PAR, CoP, critical thinking*

Introduction

Liverpool Hope University (LHU) is aiming to improve the universities level of environmental performance. Although it has a range of environmental practices, initiatives and policies in place it aims to make pragmatic and considered improvements towards achieving sustainability. As a liberal arts university with just over 8,000, conceptually we are ideally suited to adopting sustainability when compared to larger, less nimble and conservative universities (Shriberg, 2002; Holmberg and Samuelsson, 2006). This study describes how as part of their degree, final year students were assigned to undertake an audit of the awareness of staff and students of environmental performance with specific reference to their perceptions of barriers and gateways to achieving sustainability.

Existing barriers to transformation to sustainable Universities

It is apparent that after achieving initial success in fostering a more sustainable profile that many institutions were unable to maintain the progress (Shriberg, 2002; Thomas, 2004; Velazquez et al. 2005; Lozano, 2006; Holmberg and Samuelsson, 2006). It seems that the morphology of many universities is not ideally suited to adopting sustainability due to 'incentive structures' that do not recognize the value of sustainability, 'lack of will' if the need for change is not apparent, and 'lack of external pressure'. With specific regard to the greening of their curriculae studies on universities have identified: disciplinarity (Moore, 2005); academic identity (Hegarty, 2008); inaccessible language of Education for Sustainable

Development (Cotton, Warren, Maiboroda, Bailey 2007); incongruence (of sustainability) with existing curriculum (Lidgren *et al.* 2006); and finally lack of expert knowledge (Lidgren *et al.* 2006), as tangible barriers to achieving sustainability within their institutions.

Potential of Higher Education as a change agent for sustainability

A detailed description of why universities are such suitable change agents and examples of institutional case studies is beyond this paper (see Holmberg and Samuelsson, 2006). At an institutional level universities can be viewed as places with considerable potential to implement and advocate sustainability. They typically do this on 5 broad fronts by incorporating sustainability into their mission and strategic planning, curricula development, research portfolio, student life, and operations (Ferrer-Balas, 2008; Svanstrom *et al.* 2008; Sammalsito and Arvidsson, 2005). A less apparent perception of the role of universities is at the societal level, where they can also contribute to a transition towards a sustainable society. Based on the assumption that sustainability should start with oneself and that Universities are a microcosm of society, higher education institutes can model sustainability that society can then emulate and become transformative. There are a dearth of studies that have measured the utility of students as change agents (Korhn *et al.*, 1999) and it is against this backdrop that this study is set.

Method

This study is based on a thematic analysis of an environmental awareness audit conducted by undergraduates at LHU that took place in the autumn of 2008. As part of the assessment for their combined honours degree 55 students studying a 30 credit module entitled, 'Health, Risk and Sustainability' undertook elements of participatory action research (PAR) devised by Wadsworth (1984), and a communities of change (CoP) approach (Hegarty, 2008), when conducting a group project to assess the perception of staff and students about the Universities environmental performance.

We anticipated that the University would provide an ideal setting for such an assessment to take place because the campuses are inherently decentralized, facultative, open and supportive of students doing such projects. We used the 10 action points of the Talloires Declaration as a framework in order for the students to structure their approach to data collection (Talloires declaration resource kit, 2006). We recognized the importance of limiting the scale of the audit acknowledging that students would not have sufficient time to investigate all aspects of the Universities level of sustainability and that they would not have all of the skills necessary to do so (Korhn, *et al.* 1999). We envisaged that by placing constraints on the scope of the audit it would result in a more positive outcome for the students' experiences and the exercise. To further maximize the positivity of the assessment for the students (and staff) we contacted all of the people that the students had identified and intended to interview in their sample to advise them of the assessment. Even so, we advised the students to be patient and respectful when contacting staff and to be prepared to encounter setbacks and resistance. We emphasized that overcoming them was an important element of the learning experience. Each group were given a specific aspect of environmental performance to assess. These included; 'procurement', 'curriculum', 'research', 'waste and recycling', 'conservation and biodiversity', 'utilities', 'policy', 'transport', 'building' and other aspects of the ecological component of environmental sustainability. We did not ask them to assess the broader aspects including economic and social considerations. The students were deliberately given minimal guidance, because we wanted them to devise how they would gather the information they required, evaluate it and finally report their findings.

The process of participatory action research allowed the students to engage in small groups with the aim of creating a positive social outcome. It's inherently reflective nature, the need to work co-operatively to plan, execute and reflect was critical to the success of the audit and the assessment. Critically, we wanted the students to be as autonomous as possible and to have a sense of ownership and responsibility for the assessment. Although this may have compromised the academic quality and utility of the submitted audit, as a piece of assessed work, the learning experience and in particular, the opportunity for empowerment took priority.

Before they undertook the assessment, they studied on the module for 6 weeks wherein they looked at the complexity and inter-connectedness of sustainable issues, the philosophy underpinning PAR and the process of critical thinking. They then contacted key staff across the university whom they identified as representative of the hierarchy within the university including academics, careers, library and resources, estates, catering, the pro-Vice Chancellor, the Student Union, Outreach, and arranged interviews. They conducted semi-structured interviews and devised questions that measured: *'knowledge of sustainable development in general; knowledge of sustainability on campus; attitude towards sustainable development; perception towards achieving sustainability on campus and as an objective of outreach,'* and so on. Interviews lasted between 20 minutes and 2 hours and were recorded using a digital microphone. The students then transcribed and analysed the interviews to identify recurring themes that represented the perceived barriers to, and opportunities for achieving sustainability. We then put the students into focus groups and conducted 1 hour discussions with them. These were transcribed and analysed thematically to identify perceived barriers to achieving sustainability. Finally, the students submitted reflections of their experiences in conducting the audit, which were also analysed using thematic analysis.

Results

The themes

The following section summarises the main themes that arose from the interviews with regard to barriers and gateways to achieving sustainability. The general themes are in order of importance as perceived barriers were: 'other priorities', 'cost'; 'responsibility'; 'time', 'knowledge and awareness'; 'communication'; 'internal discord', 'acceptability' and 'external pressure' although different groups perceived different barriers to be more formidable than others (figure 1). Gateways to achieving sustainability varied based on order of importance and by the perceptions of each group. In general their order of importance was: 'acceptability and compliance'; 'knowledge and awareness'; 'external pressure'; 'time'; 'responsibility'; 'communication'; 'cost' and 'other priorities' (Figure 2). The interviews were then analysed based on the perceptions of sustainability of academic and non-academic staff and the students who were interviewed and devolved into percentages of perceived barriers and gateways (this data is summarized by the black bars in figs. 1 and 2.). The emergent themes were then summarized under the sub-heading by which the students conducted the awareness audit and quotes are used as supporting evidence.

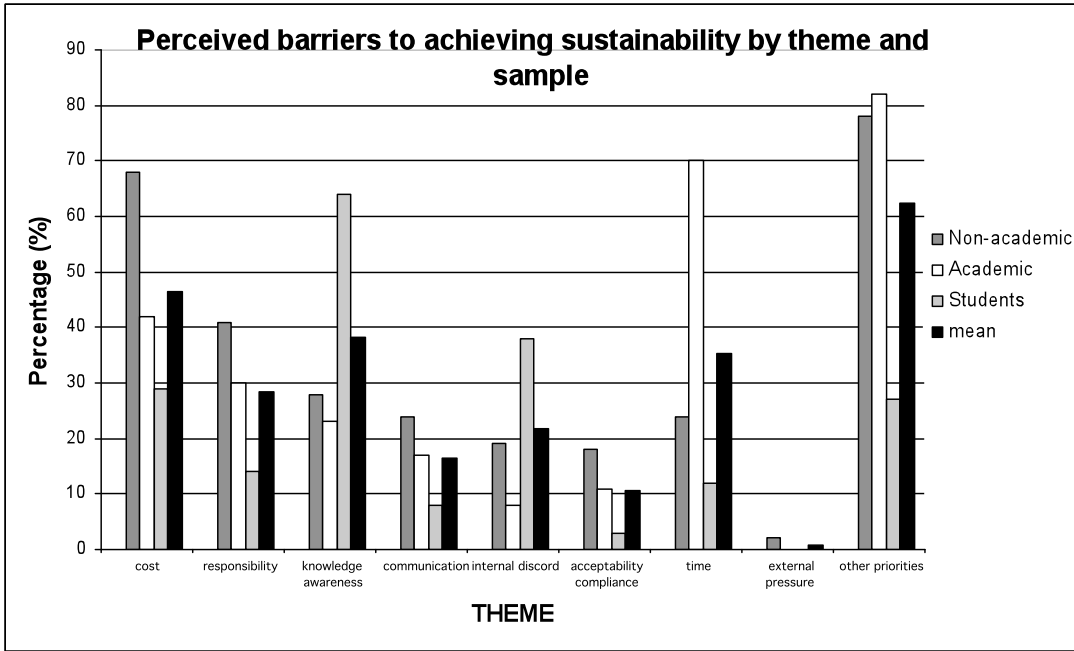


Figure 1

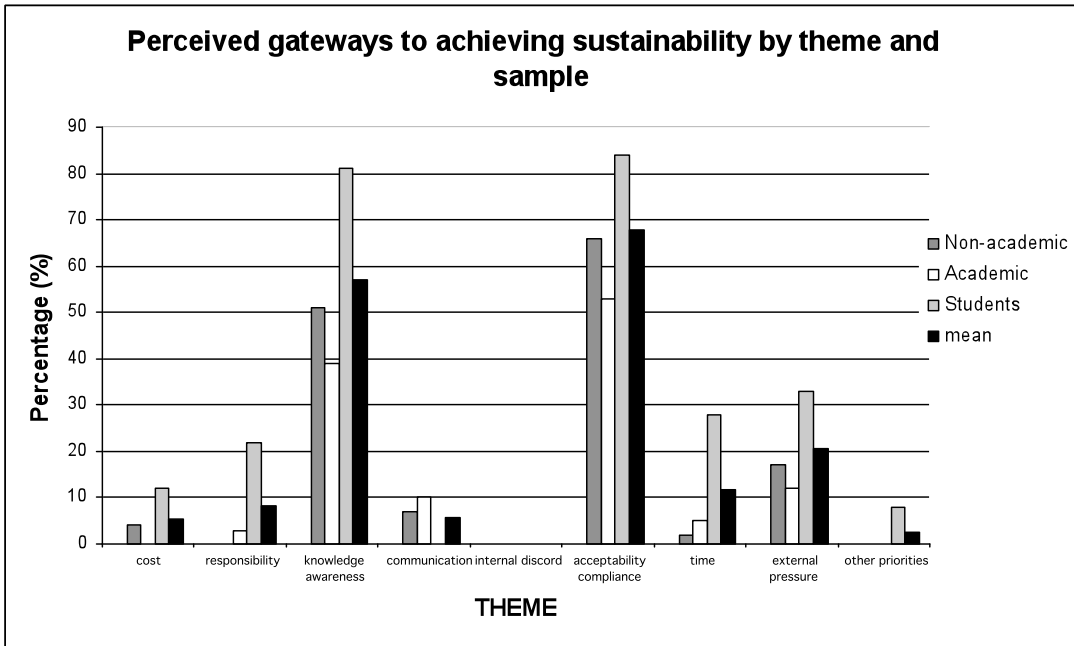


Figure 2

Discussion

The themes were effective at identifying the general barriers and gateways to achieving sustainability at the university and the context of the assessment allowed for the acquisition and development of critical thinking (Chaplin, 2007). However, each sample group had specific reasons for referring to the theme. For example, with regard to ‘time’, all groups agree, to a degree, that restrictions on time are an important barrier to taking sustainable action. Academic staff viewed time as commodity, “not enough time to incorporate sustainability into curriculum”. However, only the student reflections highlighted that time was a factor when it came to seeing results after implementing an initiative or maintaining the

momentum of sustainable initiatives over protracted periods. This resonates in the following quotation:

“we talked to the grounds-man and catering about the possibility of the students running an organic vegetable patch on the campus they thought it was great but asked who would look after it in the summer when the students had left - we instantly felt deflated”

Unsurprisingly, ‘other priorities’ was considered the most critical barrier to initiating sustainability by academics (82%) and non-academic staff (78%). Although it is rather a general term – phrases such as ‘agendas’, ‘financial and time commitments’, and ‘incompatibility with other developments, strategies and goals’ were prevalent in interviews. ‘Cost’ was reported by 68% of non-academic staff who used phrases such as ‘funding’, ‘affordability’, ‘budget constraints’ ‘other priorities’ and ‘expense’. 42% of academic staff reported finance as a barrier. ‘Knowledge and awareness’ were regarded as less of a barrier but this quote shows how academics who are unfamiliar with sustainability might perceive it, ‘I don’t see how it fits into my curriculum’. Incongruence was identified by Lidgren et al., (2006) as a barrier. Phrases such as ‘vagueness of meaning’, and ‘ambiguity’, ‘is it to do with the environment’ demonstrate why this may be the case. ‘Responsibility’, ‘internal discord’ and ‘communication’ were perceived as representing less of a barrier. With notable exceptions, these findings support the quantitative findings of Shriberg (2002) who found the most problematic barriers to be ‘higher priority of other initiatives’ (mean=4.17), ‘lack of funding’ (mean=4.08), and ‘lack of time’ (mean=3.78). Lack of commitment from students (mean=2.53) and faculty (mean=2.71) as well as ‘fear of change’ (mean=2.78) and lack of commitment from staff (mean=2.78) were the least significant barriers to sustainability.

The benefits of PAR and CoP for effecting change

Both the elements of PAR and CoP provided the ideal research methods for this particular scenario because it allowed the students to generate the desired information about respondents’ perceptions of the state of sustainability within their daily place of work and study while simultaneously stimulating action for the change of those very environments, systems and people. Our aim was to overcome the separation of the research and action that is inherent in traditional empirical research and to give the students control and ownership of the assessment thus attempting to make the researchers and the respondents, equal partners (Wadsworth, 1984). Thus, the ethos of the assessment was not simply the acquisition of data and the generation of knowledge but the empowerment of the participating people.

“It has been a rewarding and challenging experience in participating in the sustainability research project. It has definitely made me more aware of the importance of sustainability within the University and at home and how small changes can make a difference. I now see its importance for future generations and I feel a strong sense of empowerment to make a change.”

The reflective process is the essence of PAR and the students and staff hopefully began to formulate intentions and make plans about their future, which they now viewed as transformative, and which in turn will lay the foundation for action. Critically, we feel that most of the students did become empowered within this process and the intended effect of this was manifest in a changed perception of their worldview.

“It (the audit) empowered me to focus on the environment and to take notice of how I am affecting the world and how small changes can still be beneficial.”

As the students were not simply collecting information but also proposing changes, they were able to engage cognitive skills and strategies that allowed them to achieve the desired outcome, which was change or at least the realization that change was required. In this sense, their audit became goal-oriented and purposeful. In short, it is this transformation, which allows them to step out of their surroundings, question their reality, evaluate their actions and propose, and make informed changes.

“At first I felt self-conscious questioning the senior staff but as my confidence and understanding grew I felt that I was listened to and when I made suggestions on how the university could become greener I was able to hold my own during discussions.”

“I feel as students that we must act as agents and catalysts towards the ideology of a sustainable university....I have changed my behaviour and actions for the better because I feel one person can make a difference...as students we have a responsibility to change, we owe it to future generations.”

However, some clearly found the experience rather fraught:

“I didn’t feel that I had sufficient depth of knowledge in the subject, therefore I felt incompetent to interview university staff. I felt that I wasn’t really listened to and my views on making the university greener weren’t important as the interviewees had other priorities.”

The students were largely autonomous in the formulation and structuring of their audit and we left them to identify and overcome any problems they encountered. They had to make reasoned and pragmatic choices on the, who, what, why, where and how of the audit and they did this initially by trial and error, but latterly in an intuitive way and without prompting. Ultimately, they had to evaluate their actions and thoughts as they progressed with the audit and most importantly were able to (re)assess the efficacy of their approach or the pragmatism of their decisions (Dawes, 1988).

“Personally, it was interesting hearing the department heads’ views and opinions and helped me to understand how complex and diverse the problem is which had an affect on what I thought about making sustainable changes”

This is also highlighted in the following quotes. Early in the audit process one interviewee said that:

“Students were very passionate and single-minded with regard to sustainability and found it difficult to accept that other factors had to be considered.”

However, the following students emphasize their change in approach and understanding:

“...before I did this I had an idealistic view of how improvements could and should be made. I now understand the world is much more complex and that small changes or even simply getting people to think about the issue will have a positive effect.”

Students acknowledged that staff did express an interest in sustainable issues but found evidence that they did not fully understand what sustainability meant. They felt that this was exacerbated by the lack of information about sustainability at the University and that it was not disseminated effectively. The students feel that they may have ameliorated this knowledge deficit:

“At the beginning of the interviews I felt that we were not taken seriously, however, as the interview progressed, and as more staff and students were interviewed, they became aware of the problem and took us seriously.”

The potential of students as environmental change agents is highlighted in this quotation from an academic which emphasizes their ability to disarm and elicit honest responses.

“Initially I was rather cagey with them but they managed to get me to say things that were on my mind about...and I felt better for it.”

“Students are in a good position to promote ideas and help people to understand without having to act as an authority figure.”

Finally, during the focus group discussion students learned that their assessment had been discussed at a senior board meeting within the university and we feel that this powerfully demonstrates the depth of ownership and achievement the students held for this assignment.

“We were actually really happy when we found out that our assignment was on the agenda of the University's main board meeting. This shows that what we did has got through to the people who can make things happen. We sincerely hope that what we did actually makes a difference...even if the difference is to start people thinking.”

Although universities can be viewed as change agents in their own right, both on an institutional and societal level it is their role as learning communities wherein it may be their students who may prove to be the most important change agents of all. Other studies have identified that students make effective environmental change agents if they possess knowledge of the environmental, economic and social issues related to sustainability, a value system and motivation and other change agent abilities (Korhn, et al. 1999). However, from this study, we identified that students possess many other attributes appropriate for the role of change agent. Rather cynically, besides the ‘free’ element, both in economic and temporal terms, their drive, perspective, intellectual sharpness, irreverence for institutional hierarchies and a disarming charm may help them punch through the protective and ambivalent inertia towards sustainability issues that a change weary sector may have developed.

References

Chaplin, M. (2007) A Model of Student Success: Coaching Students to Develop Critical Thinking Skills in Introductory Biology Courses. *International Journal for the Scholarship of Teaching and Learning* Vol. 1, No. 2

- Cotton, D.R.E. , Warren, M.F. , Maiboroda, O. , and Bailey, I. (2007) Sustainable development, higher education and pedagogy: a study of lecturers' beliefs and attitudes, *Environmental Education Research* 13 (5): pp.579–597.
- Dawes, R. M. (1988) Rational Choice in an Uncertain World. *Harcourt Brace*.
- Ferrer-Balas, D., Adachi, J., Banas, S., Davidson, C.I., Hoshikoshi, A., Mishra, A., Motodoa, Y., Onga, M., Ostwald, M. (2008), "An international comparative analysis of sustainability transformation across seven universities", *International Journal of Sustainability in Higher Education*, Vol. 9 No.3, pp.295-316.
- Hegarty, K. (2008) Shaping the self to sustain the other: mapping impacts of academic identity in education for sustainability. *Environmental Education Research*, Volume 14, Issue 6 pp 681 - 692
- Holmberg, J. and Samuelsson, B. E. (2005) Drivers and Barriers for Implementing Sustainable Development in Higher Education (Göteborg Workshop, December 7-9)
- Korhn, S. *et al.* (1999) Students Conduct Environmental Audits for Credit and Public Service *ULSF Talloires Publications* Vol 3: No 2
- Lidgren, A., Rodhe, H., and Huisingh, D. (2006). A systemic approach to incorporate sustainability into university courses and curricula. *Journal of Cleaner Production*, 14, pp 797–809.
- Lozano, R. (2006) Collaboration as pathway for Sustainability. Environmental Management for Sustainable Universities 2006. *Stevens Point, Wisconsin*.
- Moore, J. (2005) Seven recommendations for creating sustainability education at the university level: A guide for change agents. *International Journal of Sustainability in Higher Education*. Vol 6. pp326-339
- Sammalisto, K., and Arvidsson, K. (2005). Environmental management in Swedish higher education. Directives, driving forces, hindrances, environmental aspects and environmental co-ordinators in Swedish universities. *International Journal of Sustainability in Higher Education*, 6, pp 18–35
- Shriberg, M. (2002). Institutional assessment tools for sustainability in higher education. Strengths, weaknesses, implications for practice and theory. *International Journal of Sustainability in Higher Education*, 3, pp 254–270.
- Svanström, M., Lozano-García, F.J., Rowe, D. (2008), "Learning outcomes for sustainable development in higher education", *International Journal of Sustainability in Higher Education*, Vol. 9 No.3, pp.339-51.
- Talloires declaration resource kit, 2006.
http://www.studentsenateccc.org/Portals/1/Documents/TD_resourcekit.pdf
- Velazquez, L., Munguia, N., and Sanchez, M. (2005) Deterring sustainability in higher education institutions: An appraisal of the factors which influence sustainability in higher education institutions. *International Journal of Sustainability in Higher Education*, Vol. 6, no. 4, pp. 383-391.
- Wadsworth, Yoland (1984) Do It Yourself Social Research, *Victorian Council of Social Service and Melbourne Family Care Organisation, Melbourne*