Case studies, make-your-case studies, and case stories: a critique of case-study methodology in sustainability in higher education

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In this paper we raise serious concerns about existing case-study research on sustainability in higher education. Our key concern is that the research does not live up to its potential for improving the field of sustainability in higher education. We have argued that case-study research in the field falls short of its promise due to a lack of theorizing about the research methodology or an understanding about the methodology. If case-study research is to lead to an improvement in the way universities respond to sustainability in their curriculum, activities, policies and functions then researchers need to address the manner in which they conduct and report their research. Based on an analysis of 54 journal articles on sustainability in higher education, four areas of concern have been identified. The paper converges in a set of critical considerations for conducting case-study research in sustainability in higher education.

Introduction

Case-study research in sustainability in higher education has not lived up to its potential for improving practice in institutions moving toward sustainability. While it has been descriptive, it has not lived up to its potential to transform practice. Current case-study research in the context of sustainability in higher education does not problematize practice, instead it sets up a number of dichotomies of practice. Stories of successes are reported but the data supporting these successes are not available for public critique. Such success stories may mask the problems experienced by the institution in implementing sustainability. Case-study research in sustainability in higher education rarely includes information on the theoretical approach to the methodology or on the methods used to gather the data. We argue

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that such case-study research would be more effective in bringing about change if it were better theorized and documented. Our critique is based on an analysis of 54 journal articles on sustainability in higher education. A number of critical considerations for case-study research in sustainability in higher education are presented.

The sustainability movement in higher education

The emergence of the sustainability movement in higher education can be traced to the recognition of the importance of greening universities early in the environmental education movement going back to the late 1960s and 1970s, and to the term 'sustainable development', which arose in 1972 at the United Nations Conference on the Human Environment in Stockholm.

In the 1990s, various declarations of commitment to intergenerational responsibility and to the particular capability of institutions of higher education to take a lead in society's transformation to sustainability were developed. These joint declarations were seen as capable of catalyzing institutional change in higher education.

To quote from just one such declaration, the Talloires Declaration:

> Universities educate most of the people who develop and manage society's resources. For this reason, universities bear profound responsibilities to increase the awareness, knowledge, technology, and tools to create an environmentally sustainable future. (University Leaders for a Sustainable Future, 1990, p. 1)

The Talloires Declaration was followed by the Halifax Declaration (Canada), the Copernicus Declaration of Association of European Rectors, and the Kyoto Declaration of the International Association of Universities (Wright, in press). Taken together, over one thousand institutions have made an institutional commitment to sustainability. As institutions have moved toward defining the critical dimensions of sustainability and toward their own implementation, a range of case studies have emerged.

Recent events have given strong momentum to the movement. In 2000, the Global Higher Education for Sustainability Partnership (GHESP) was formed by the United Nations Educational, Scientific, and Cultural Organization. In the same year, COPERNICUS-CAMPUS, the International Association of Universities (IAU) and University Leaders for a Sustainable Future (ULSF) were also formed. One of the outcomes of the World Summit on Sustainable Development is the inclusion of the 'Decade of Education for Sustainable Development' to take place 2005–2015.

In universities, sustainability presents an opportunity to make education more problem based, more interdisciplinary and more applied. Some value its broad-based international political clout in bringing environmental issues back to the forefront. Others see in sustainability an opportunity to reflect on the role the university has to play in society and in the health and lifelong learning of employees and students.

At the same time there are critics of the sustainability trend. Some even claim it represents a false and superficial consensus that masks power struggles and ideologi-

cal differences, while denying the role of conflict in bringing about fundamental change at the level of culture and values (Wals & Jickling, 2000; 2002). Institutions of higher education in particular, Wals and Jickling argue, have a role of critically examining such trends and cultivating a pluralism of ideas and diversity of thought.

Being mindful of this critical view of sustainability we are particularly interested in the contextual development of sustainability. In other words, sustainability as a concept that takes shape and meaning by the active involvement of all relevant actors in a transparent and highly reflective process that is firmly rooted in the social realities of a given context, but sensitive to emergent realities in other contexts as well. Taking this notion seriously suggests that it is unfeasible and even undesirable to look for universal descriptions of sustainability or for universal models for the development, implementation and evaluation of sustainability. It appears more useful to look for contextual studies of practice that have transformative value both for local practice and practices elsewhere, hence the value of a critical case study.

Case-study methodology is a common and appropriate research tool used in studies of sustainability in higher education. We argue that the decision to publish case studies for a broad audience suggests that others have something to learn from the case study. Therefore, the study should provide a critical analysis of practice and be documented in such a way that it can have transformative value for others.

Recent literature on the integration of sustainability in higher education (Corcoran, 1999; 2001; van den Bor *et al.*, 2000) suggests that one can look through different windows in trying to get to grips with the concept of sustainability. Furthermore, sustainability has different dimensions that need to be considered: dimensions of space, time, culture and ethics. Ideas about the concept of sustainability differ from country to country, culture to culture, develop over time and are based on varying sets of norms and values.

The field of sustainability in higher education is complex: there are no two institutions alike and within institutions, no two schools alike. Moreover, the concept of sustainability itself is complex. It has been discussed as an ill-defined concept, as a paradigm, as an integrating, or heuristic device or as a subject of normative and ethical discussions.

Qualitative case-study methodology is of course not the only research tool used in sustainability in higher education. Indeed the other most common tool is quantitative studies using indicators of sustainability (see Roorda, in press, for an example hereof). In this paper we choose not to critique this form of research. Instead, we critique selected case studies that lead us to suggest an approach we call 'critical case-study research'.

Case-study methodology

According to Yin (1989, p. 82), case studies allow a researcher to 'reveal the multiplicity of factors [which] have interacted to produce the unique character of the entity that is the subject of study'. They represent a method of learning about a complex instance through description and contextual analysis. The result is both descriptive and theoretical in the sense that questions are raised about why the

instance occurred as it did, and with regards to what may be important to explore in similar situations. A case study:

> investigates a contemporary phenomenon within its real-life context; when the boundaries between the phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. (Yin, 1989, p. 23)

Case-study methodology, therefore, is the ideal research tool to investigate sustainability in higher education. The case-study approach allows the researcher to 'go deep', to learn what works and what does not. An important issue for case-study research, and one that will be raised in this paper, is the flexible and adaptive nature of the typology. There is an imprecise understanding of case study and, according to Merriam (1998), it is often misused as a 'catch-all' research category for anything that is not a survey or experiment. Indeed, a case study can accommodate a variety of research designs, data collection techniques, epistemological orientations and disciplinary perspectives. No matter what the researcher's epistemology, the case study is an appropriate strategy for answering questions about how or why.

A case study can be defined by its special features and these features are not mutually exclusive. Merriam (1998) describes the special features as particularistic, descriptive and heuristic. Each of these features is evident in case-study research in sustainability in higher education. Particularistic case studies focus on a special event, situation or program. The descriptive refers to the end product, which means inclusion of as many variables and analysis of their interaction over time. Heuristic means that case studies enhance the reader's understanding of a phenomenon in such a way that the study extends the reader's experience.

Case-study research has many differences depending on the purpose of the study, the size of the study, the people involved, the theories developed and the theories tested. Bassey (1999), for example, defines a range of purposes for educational case studies that include theory-seeking and theory-testing case study, storytelling and picture-drawing case study and evaluative case study. Case studies may involve description, explanation, evaluation and prediction. Many case studies involve people working within their regular environment.

Yin (1993) describes three forms of case study: exploratory, explanatory and descriptive. In exploratory case studies, fieldwork and data collection may be undertaken prior to definition of the research questions and hypotheses. This type of study has been considered as a prelude to some social research. Explanatory cases are suitable for doing causal studies. In very complex and multivariate cases, the analysis can make use of pattern-matching techniques. Descriptive cases require that the investigator begin with a descriptive theory, or in other words, they form hypotheses of cause–effect relationships.

Case-study methods in sustainability in higher education vary according to the researcher's purpose in conducting the case. Frequently, the researcher is an outside evaluator or critical friend who sets out to critique the practices of an institution. The aim here is multipurpose and often has internal and external purposes. Internally, the evaluator provides important feedback to the practitioners involved in an innovation and often works with these people to move forward. The evaluator may

provide feedback to the institution as a whole in the form of a report on the success or otherwise of the implementation of sustainability in the institution.

Externally, the evaluator may compare institutions in an effort to identify practices that work and those that do not. This work is particularly valuable for those attempting reform in their own institutions. The work also provides important data for funding groups and potential funding groups.

Case studies may be conducted by the practitioners involved in the innovation. Here the aim is to engage in a self-study of their own practices. While this form of case study has the disadvantage of not providing critical external feedback, it is a valuable tool in improving practices.

Whether an outside evaluator is conducting the case or insider practitioners conducting a self-study, they are striving for a holistic understanding of cultural systems of action (Feagin *et al.*, 1991). Cultural systems of action refer to sets of interrelated activities engaged in by the actors in a social situation. It is a system of action rather than an individual or group of individuals. This means that the researcher considers not just the voice of individual actors, but also of the relevant groups of actors and the interaction between them.

Indeed, case-study research is a study of practice. It is a study of all the players, or practitioners, involved directly, or indirectly, in the innovation. Further, it is a study of the practitioners' actions and the theories they hold about their actions. Improvement in practice occurs when practitioners confront their existing theories (own and others) and in so doing engage in theory-building to bring about change. Stenhouse (1985) explains that an educational case study should seek to enrich an understanding of educational action.

Carr and Kemmis (1986, cited by Robinson, 1993, p. 5) define educational practice as actions informed by beliefs about how to achieve educationally important purposes in particular circumstances. Robinson goes on to explain that practices are more than behaviors because they incorporate beliefs about what is important and how what is important can be achieved in particular circumstances. The reasoning process that informs practice includes technical considerations about how to achieve goals (such as training, budgets, etc.) and normative considerations about what the goals should be. Case-study research contributes to practice by improving the reasoning of practitioners (technical, normative or, preferably, both). This improvement may be confined to one institution that uses the case study as a means to improve their own practices, or more broadly, to other practitioners in other institutions who learn from the innovation.

Critique of selected case studies in higher education

Research on innovation in sustainability in higher education has broadly consisted of: (1) quantitative studies using a predetermined set of sustainability indicators or ecological footprint (see, for example, Flint, 2001), or (2) qualitative studies using, primarily, a case-study approach (numerous examples can be found in Filho, 1999; the *International Journal of Sustainability in Higher Education*; *The Declaration* (ULSF, 1999–2001); and in Corcoran & Wals, in press). In some instances the research

focuses on a case-study approach but uses data from a set of predetermined sustainability indicators as part of the case study (see, for example, Routier *et al.*, 1999).

As stated earlier, we will not focus on the sustainability indicator research, although our analysis of journal articles appears to show that this research tends to be empirical and includes information on how the indicators were devised and tested and on the theoretical underpinnings of the research. The researchers using sustainability indicators present arguments on their relative validity and as such the sustainability indicator research has been available for public critique. Our main interest here is in the increasingly popular use of case studies in developing sustainability in higher education.

We conducted an analysis of the major journals in environmental education: *Environmental Education Research* (volumes 2–7), *Australian Journal of Environmental Education* (volumes 11–16), and *Canadian Journal Environmental Education* (volumes 1–6), published over the five-year period 1996–2001. Our methods of inquiry consisted of:

Identifying research papers on sustainability in higher education that used case-study methodology. Such papers were identified if 'case study' or 'story' appeared in the title or in the text of the paper.

Analysis of the papers to determine if any information was given on the case-study methodology used in the paper.

1. Analysis of the paper to determine if:
2. the purpose of the case study was made clear;
3. data-collection methods were included;
    i.   the role of the author/s in the conduct of the study was made explicit;
    ii. a clear purpose for the case was established;
    iii. a critical analysis of the case was included;
    iv. all the people involved in the phenomenon were included in the case;
    v.   the case had the potential to contribute to an improvement in the field of sustainability in higher education.

Results were tabulated and used to answer the set of questions outlined above. The findings are presented in the descriptive format presented below. The aim of this study is to determine the variety and purpose of case-study research in sustainability in higher education. Our objective in conducting this research is to develop a theoretical model for writing critical case studies in sustainability in higher education. Such a framework will serve the purpose of improving work that is happening in the field.

The analysis revealed that there are very few papers in the more general environmental education journals focusing on sustainability in higher education. Therefore, the key source of our analysis became the journals and newsletters dedicated specifically to sustainability in higher education. These sources included: *The Declaration* (ULSF, 1999–2001), the *International Journal of Sustainability in Higher Education* and *Sustainability and University Life* (Filho, Ed., 1999). However, data were taken from the *International Journal of Sustainability in Higher Education* and from

Sustainability and University Life due to the nature of the articles in *The Declaration*, where each case study follows a similar pattern providing some background to the university and then an explanation of the initiative. Research methodologies are not usually discussed and this is appropriate given that this publication is a newsletter and not a research journal.

The data show that of the 54 papers on sustainability in higher education in these sources over this period, 28 draw on case-study methodology as a means of describing their innovation. The data also show that of these 28 papers, only two explain the methodology of the case, and only one provides a critical analysis of the case.

The findings from this analysis follow:

1. The reporting of case studies follows a similar pattern which consists of:
   i.   a background description of the institution;
   ii. a description of the sustainability 'challenge' for the institution;
   iii. a history of the 'challenge';
   iv. a description of the innovation, with an emphasis on reporting successes;
   v.   hints at why the innovation was a success;
   vi. conditions necessary if the innovation is to continue into the future.
2. There is little discussion of the case-study methodology or why this form of research was used. In many instances there is no information given on how the data were gathered or from whose perspective the case study is written.
3. In some instances information on the research methodology is incorrect, for example, 'An Empirical Case Study from …' consisted of some empirical research but also included qualitatively gathered data from group discussions, interviews and informal discussions. There was no information on how the qualitative data were analyzed, nor any information on how the case study led to any improvements in the institution studied.
4. Two case studies consisted of an analysis of the ecological footprint of the university. In these instances the ecological footprint consisted of an analysis of consumption patterns of the university. No consideration was given to the social implications of the university, and again, no indication as to how the case study would lead to improvements in practice.
5. In some papers critical conditions necessary for sustainability in higher education are listed and then case studies are used to exemplify how these conditions have been met. This form of reporting is closely aligned to the use of sustainability indicators as a means of reporting via case studies. Clugston and Calder (1999) provided a structure and purpose for their study by using a set of critical conditions. Their work was different from many of the case studies analyzed because they asked the practitioners to critically appraise the sustainability initiative using the set of critical conditions.
6. Some case studies included quantitative data on student and faculty opinion about sustainability, student knowledge about sustainability and levels of sustainability in course content.
7. Methodology sections, where present, provided information about the under-

pinning methodology of the innovation (e.g. implementation of an environmental management system) but not about the methodology of the case study.

8. In some instances the researcher set out to prove a particular point and then used case studies to exemplify this point.
9. The case, as a story, is a common means of reporting innovations. Jenks-Jay (1999), for example, tells a compelling story about the innovation in sustainability at Middlebury College. David Orr (1999), similarly, recounts his story of innovation at Oberlin College. In these case stories the role of the storyteller in the innovation is made clear.
10. One paper (Cole, 1999, p. 236) explained why case studies were useful to both 'reluctant universities and progressive administrators'. The author made it clear that the purpose of the case was to use it as a model of success for others. From there the cases were written as success stories or 'make-your-case studies'.

The case studies rarely included any information on the theoretical approach to the methodology or on the methods used to gather the data. Instead, stories of successes were reported and the data supporting these successes are not readily available for public critique. Although much research in environmental education or on education in general tends to be well theorized, research on sustainability in higher education is not. This is not to say that there is no place for case-study research on sustainability in higher education; indeed we believe it is a very important research strategy that has the potential to provide understandings not possible in the empirical sustainability indicator research. We are saying that such case-study research would be more effective in bringing about change if it was better theorized and documented.

Critical considerations for conducting case-study research

In generating critical considerations for conducting case-study research, we identified four broad areas of concern. The first of these areas is *purpose*. From our analysis it became clear that many case studies did not have a clear purpose and, when they did, failed to show how the study adequately addressed this purpose. For instance, the purpose of the case may be to improve one's own (or one's institutional) practice, to help others elsewhere improve their practice or to achieve both. The second area is the *role* of the players. It is important that all the actors, representing potentially diverging interests, be involved in the study and their role in the innovation be explained. The power base needs to be explored in a study, in other words, whose interests and goals were being served in the initiative.

The third area concerns the *tension* between the universal and the contextual. Every school or institution is different and the ways in which sustainability issues are dealt with in one institution are very contextual. Therefore, it is important that a study addresses how practice and learning from one institution can become transformative beyond the context in which the case was developed, both within and across institutions.

The fourth area is *challenge*. A study is more tranformative when it challenges the

reader and/or sets challenges for the writer. The development of sustainability in higher education has both personal and shared elements to it. Social interaction allows one to relate or mirror his or her ideas, insights, experiences and feelings to those of others. In this process of 'relating to' or 'mirroring' (Cassel & Giddens, 1993), these ideas, insights, experiences and feelings are likely to change as a result. This mirroring can be see as a challenging of the various ways of thinking that are involved in an institutional change process and is likely to create the dissonance needed to trigger the rethinking of ideas in light of alternative, possibly contesting, viewpoints or ways of thinking and feeling. At the same time (learning) experiences which are shared with others are likely to gain importance. This is not to say that personal experiences which are kept to oneself are insignificant. But shared viewpoints or ways of thinking and feeling give the learner a sense of competence and belonging to the community of learners and practice (Lave & Wenger, 1991). Dissonance and reframing should be both a part of the process of doing case-study research and a resulting outcome of the research when it is read by others.

Robinson (1993) suggests four questions for guiding educational innovation and improvement:

1. What is the problem or issue?
2. How have practitioners attempted to solve the problem? (What is their theory of action, the constraints, strategies and consequences of their actions?)
3. How is the solution judged adequate?
4. How do we build a more adequate theory?

These key questions are best addressed by a community of learners representing a variety of perspectives of the issue at stake in a cyclical process of simultaneous action and reflection during which a synergy between theory and practice is constantly sought (Wals & Alblas, 1997). This cyclical process of action and reflection is sometimes referred to as action research. Carr and Kemmis (1986, p. 42) have described action research as 'a form of self-reflective inquiry undertaken by participants in social (including educational) situations in order to improve the rationality and justice of their own social or educational practices, their understanding of these practices and the situations in which the practices are carried out'. Action research is rooted in 'praxis', the process of reflection and action, and is a means for members of the community, any community, to improve their own practice, to help them acquire knowledge and personal empowerment, and to adjust organizational policies and institutional arrangements to make improvements as deemed necessary (see also Corey, 1953; Carr & Kemmis, 1986). In education, the approach has a dual purpose: the improvement of the learning environment and the empowerment of the educational community. Hence, its overall purpose is the enhancement of the quality of education itself. Applied to sustainability in higher education, action research enables students, teachers and other members of the staff and the community to participate more fully in educational change. They come to assume greater responsibility for learning as they become engaged in tackling and acting upon issues that they themselves have identified and recognized to be important.

Based on the four areas of concern, the four questions suggested by Robinson,

and the cyclical nature of innovation processes, we have derived a number of critical considerations for critical case-study research (Table 1). They are particularly relevant in the context of higher education and could provide a basis for a critical case-study model. These considerations were presented, scrutinized and modified at a number of expert and stakeholder meetings over the last two years: a ULSF-sponsored symposium in Washington, DC, March 2001; a consultation as a part of a COPERNICUS meeting in Lüneberg, Germany, October 2001; during a roundtable discussion at the American Educational Research Association meeting in New Orleans, April 2002; and during a thematic research seminar on case-study research in environmental education in Bath, UK, October 2002.

In an attempt not to be overly prescriptive and instrumental we speak of considerations rather than of criteria or guidelines. The use of guidelines for the conduct of qualitative research is a contentious issue in the educational research field. We like to draw attention to the *Environmental Education Research* special issue: Qualitative Methods of Inquiry (Volume 6.1; 2000) in this regard. In this issue Smith-Sebasto presents guidelines for conducting and reporting qualitative environmental education research (2000, pp. 9–37). The guidelines were developed by practitioners, researchers and scholars from the field of environmental education with the aim of advancing qualitative research. Criticism of the guidelines included questioning the viability of one set of guidelines for all qualitative research in environmental education (Marcinkowski, 2000); questioning the epistemological and ontological limits of guidelines given the diversity and complexity of qualitative inquiry (Hart, 2000); and exploring the issue that the guidelines would be interpreted in the manner in which the activity of 'doing educational research' is conceptualized (Gough & Reid, 2000). However, in Scott's summary of Gough and Reid and Reid and Gough's papers (2000, p. 7) he explains that 'the existence of such a range of positions is likely to continue, but that there may be, nevertheless, a limited role for generally applicable research guidelines if their purpose is appropriately defined'.

Reid and Gough (2000, p. 84) argue that:

> judging the quality of qualitative research reports requires the recognition of two issues regularly contested within the literature on guidelines. Firstly, the wide variety of types, genres and forms of qualitative research; and secondly, the proposition that the criteria for judging research quality contain within them, implicitly or explicitly, a defining view of what research is, and perhaps more contentiously, should be.

Reid and Gough (2000, pp. 82–84) identify issues for discussion around the development and use of guidelines. Their first issue grapples with the argument that guidelines are prescriptive and miss the point of qualitative research, that is, the depth, richness and uniqueness of the methodology. We take the position that a set of guidelines should be just that—guidelines—they should lead to a greater depth of inquiry, should provide the researcher with some framework for the research, should be critical and, most importantly, should be adaptive. It is essential that case studies have the freedom to explore the full richness of the phenomenon being studied.

The second issue raised by Reid and Gough is that applying guidelines potentially has a 'policing function' that identifies good research from bad. Indeed, we have

Table 1. Set of considerations for a critical case-study model

Considerations for critical case-study development

(1) Researcher's and institutional goals in conducting the case study
i.   Who initiated the study?
ii.   What is the purpose of the study?
iii. What are the anticipated outcomes of the study?
iv.   What is the scope of the study?
v.   What are the resources available to conduct the study?
vi.   Who is the audience for the final report?
vii. What are the anticipated format and contents of the final report?

(2) Background of the sustainability initiative
i.   What were the external and/or internal factors leading to the initiative?
ii.   Who, or what body, started the initiative?
iii. Who, if any, were the key external players?

(3) Nature of the sustainability initiative
i.   What is the background description of the institution and how the sustainability initiative emerged?

(4) Questions of the case study
i.   What were the initial identified goals of the sustainability initiative?
ii.   Did new goals emerge?
iii. Which theory/ies of change were adopted intentionally or unintentionally?

(5) Problems and issues to be researched in the case study
i.   Were the objectives of the grant achieved?
ii.   Were the university's sustainability goals achieved?

(6) Constraints in implementing the sustainability initiative
i.   What did the participants say were the constraints, hurdles, difficulties in implementing the sustainability initiative?

(7) Implementation strategies
i.   What is the implementation strategy in curriculum, pedagogy, institutional operations, management and policy?

(8) Documentation of outcomes
i.   What tool/s were used to measure the outcomes?
ii.   What evidence (include all documentation) of outcomes can be gathered in terms of the ecological, social and economic dimensions of sustainability (e.g. Sustainability Assessment Questionnaire of University Leaders for a Sustainable Future):
      • mission and purpose of the institution
      • curriculum and academic disciplines
      • faculty and student research
      • institutional operations
      • student opportunities
      • faculty and staff development and rewards
      • outreach and local community
iii. Were there any unexpected outcomes?

(9) Evaluation
i.   What were the strengths and weaknesses of the process used to develop and implement the sustainability initiative?
ii.   How do the outcomes relate to the original and renegotiated goals of the sustainability initiative?

(10) Continuing development
i.   What plans have been made to develop the sustainability initiative further?
ii.   What changes are required to improve the process by which the sustainability initiative is developed and implemented?
iii. What new goals have been established?
iv.   What conditions need to be met in order to achieve new goals? e.g.:
      • funding
      • staff development
      • management support
      • community outreach
      • career counseling for students
      • sustainability committee/s, working parties

argued in this paper that case studies written as success stories have the same function, except that they identify good practice as opposed to bad. The issue for us in developing a set of guidelines was to take account of these issues. Reid and Gough (2000, p. 83) conclude this point by asking:

> How do guidelines represent a normative intention on the part of the researcher, reviewer or evaluator, that, as in the very nature of being constitutive of a public discourse, are implicitly inscribed to be applicable to others, i.e. can guidelines be anything other than inevitably and irredeemably exclusionary?

The authors (Gough & Reid, 2000, p. 55) conclude that 'there seems to be no reason why guidelines should not be used in qualitative research to ensure the quality of work, without becoming weapons on a methodological battlefield'.

We argue that case-study research in sustainability in higher education include an explicit view of what case-study research is, the purpose for conducting the case and an understanding that case-study research should be underpinned by an aim to explore sustainability in higher education.

Discussion

Our analysis of case studies reporting on sustainability in higher education reveals a number of dichotomies or tensions that need further reflection, if case-study research is to live up to its transformative potential. One of the tensions that emerged from the study is that between the more internal need for contextual relevance and richness and the more external demand for transferability and abstraction. Case studies tend to be introspective and grounded within one specific institutional reality. If the purpose of a case study is to improve one's own, or one's own institutional practice, this may be sufficient. If, however, the purpose of the case study also is to contribute to institutional practice elsewhere, then this should have implications for the way that case-study research is conducted, documented and shared.

The call for accessibility of contextual experience also brings us to the notion of inter-case-study research, as opposed to single case-study research, or the idea of a meta-analysis of multiple case studies in order to look for trends, patterns and heuristics that are shared and emerge in different contexts.

Another tension is the one between the instrumental use of case-study research and more emancipatory usage. An instrumental approach often leads to prescriptive guidelines, criteria or standards that others, at worse, should copy or implement or, at best, should adapt to their own circumstances. Such case studies tend to be written to appeal to a large audience and multiple stakeholders and interest groups and can easily be hijacked to serve a political agenda.

A more emancipatory approach to case-study research is more process oriented and may provide ideas, suggestions or imagery that might sensitize outsiders to issues that they may have overlooked or not considered, particularly with regard to the process of institutional change. This tension also relates to the notion of a case study as snapshots of reality as interpreted or reconstructed by a single individual,

versus the notion of a case study as an ongoing, collaborative learning process characterized by a higher level of critical reflection. Case-study research as reflective collaborative learning processes aimed to improve institutional practice, primarily are to benefit the actors involved in the process. The extent to which such emerging reports on researched practice benefit others depends on the way this learning process is documented and shared, but also on how others relate to the case. In other words, it depends on what the readers distill from the case and the way they infuse their own learning into their own institutional context. Elsewhere this has been referred to as 'case inspired self generalization' (Wals & Alblas, 1997, p. 255).

The last dichotomy or tension is the one between 'good' and 'bad' practice. We argue that this really is a false dichotomy when considering that in all practice there are lessons to be learned and when recognizing that to label something 'good' or 'bad' is a normative business, highly dependent on one's vantage point and power position.

Case-study research that does not problematize practice but sets up dichotomies of practice as identified here loses its transformative potential. This is true not only for the case itself but especially in contexts that extend beyond the boundaries of the case. Our framework of critical considerations seeks to accommodate the many conflicts inherent in this work and encourage systematic and grounded reflection on both the practice of sustainability and on the process of its development.

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