

**LIVING AND LEARNING SUSTAINABILITY IN HIGHER EDUCATION:  
CONSTRUCTING INDICATORS OF SOCIAL LEARNING**

Ingrid Mulà Pons de Vall

A thesis submitted to the University of Gloucestershire in accordance  
with the requirements of the degree of Doctor of Philosophy in the  
Faculty of Applied Sciences

September 2011



## **Abstract**

This doctoral study explores the learning that occurs in higher education institutions within differing social and informal contexts, and how this learning can contribute to shifting thinking and actions (within the institution) towards sustainability. The research refers to this learning as 'social learning' and acknowledges its potential to influence the sustainability performance of a higher education institution. The study proposes indicators as a key research outcome to assist institutions in improving their contribution to social learning for sustainability.

The study is unique in that social learning for sustainability in the higher education sector has been subject to little scrutiny. The originality of the research is underpinned by its focus on staff learning in higher education, but also by the research methodology used which has not been employed in this context or with this focus before.

The empirical study was undertaken between 2008 and 2011 at three higher education institutions in the United Kingdom (UK) which were chosen for their explicit commitment to improving the university's sustainability performance. The pilot study was conducted at the University of Gloucestershire and the main findings were derived at the Universities of Bradford and Bristol. Located within a critical social theory paradigm, the study used innovative research methods such as collective memory-work to capture staff experiences of social learning for sustainability. In each university, the research involved a group of members of staff in (i) writing and critically reflecting on their stories of social learning for sustainability within their institutions; and (ii) identifying contextual factors influencing this learning process. The data generated was triangulated with information captured through institutional documentary reviews, semi-structured interviews with members of staff and a research journal.

The research demonstrates that social learning for sustainability in higher education tends to occur as both a facilitated and unfacilitated process. The first includes staff participating in extra-curricular activities, partnerships and networks, multi-stakeholder dialogues, mentoring, or action and participatory research. The latter tends to occur as a spontaneous face-to-face process or through online social networks. There is evidence

that social learning processes which are non-hierarchical, involving learning from each other and occurring within comfort zones, are more effective in shifting the thinking and actions of staff in the area of sustainability. The study identifies physical space and academic cultures as key determinants of the frequency and quality of these processes. It also suggests that opportunities in this area need to be provided to all the different sub-cultures which exist in a higher education institution. Finally, whereas the research identifies how institutional culture influences social learning for sustainability, it concludes that a longitudinal study is needed to establish whether this learning process can shape the culture of a higher education institution.

## **Author's Declaration**

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed..... Date: 30 September 2011

## Acknowledgements

Looking back, there are so many moments and memories which I wish to keep alive. Three years of PhD studies have shaped me as a person and have built my confidence enormously. They have cemented the foundations of the work that I wish to pursue. These years have been both professionally and personally challenging, but always full of wonderful surprises.

I would like to firstly convey my heart-felt thanks to my first supervisor, mentor and source of inspiration, Prof Daniella Tilbury, for all the hope she sees in me and for making this research project a reality. I could not have wished for a better PhD and professional experience. Thank you for your unwavering support and guidance; for your intellectual input in the design and writing stages; and, for always involving me in exceptional research opportunities which have given the professional directions I wish to travel. Thank you for making me feel such a special student.

I wish to express my sincere gratitude to my second supervisor, Dr Alison Scott-Baumann, for her invaluable feedback on my academic writings over a cup of coffee or lunch at her place. Thank you for the trust you have put in me and your moral support during difficult times. I have enjoyed and learned immensely from our academic discussions and conversations about life.

This doctoral study would have not been possible without the invaluable participation and contribution of research participants from the University of Gloucestershire, University of Bradford and University of Bristol. Their commitment to the research, their passion about sustainability and their positive spirit reflect the power and beauty of collaborative and participatory approaches to research.

My special thanks go to the Sustainability Team at the University of Gloucestershire. I feel proud of being part of this family of great professionals, colleagues and friends. I would like to express my appreciation to Alex Ryan, David Dowdell, Cathy Green, Barbara Rainbow, Adam Radford and Emily Troake. My deeply-felt thanks go to Seek Pang with whom I have shared the most magical friendship here. Thank you for your

support and advice; thank you for making me feel so much like at home; thank you for all those special moments we have shared in our little 'secret' places. You are an incredible person.

I sincerely thank my PhD friends Glenn Strachan, Phuong Nguyen, Mona el Zoghbi, Eva Krainitzky, Gisela Cebrián and Sandrina Pereira. It has been wonderful to share this time with you discussing academic dilemmas, having 'freaky' conversations in the pub and laughing about 'the fun things in life.'

I owe a great deal to the staff and researchers of GRECA at the Universitat de Girona and COMPLEX at the Universitat Autònoma de Barcelona. I am grateful to Mercè Junyent, Lidia Ochoa, Rosa Maria Medir, Anna Clà and Raquel Heras. Thank you for the moments we shared in Girona, encouraging and supporting me to apply for the PhD scholarship at the University of Gloucestershire and always taking care of me.

To my mother, all my love. Without all that you have taught me, I would not have been able to overcome those difficult moments during my PhD years. Thank you for being so strong and encouraging me in all my decisions. I want to express my gratitude to my brother and sister, Lluís and Judith, as well as my godmother, Teresina, for their understanding and being always there. Special thanks to my father who always encouraged me to pursue my dreams. I know you would have loved reading this thesis.

Lastly, I want to send a smile over to you, Hector. Yes! I have finished. I cannot imagine going through this PhD without your support, your patience and your love. Being with you, one can only see the positive side of things. Thank you for sharing this important journey, "*... I believe in some kind of path; That we can walk down, me and you*" (*Nick Cave and the Bad Seeds*).

*To my father,  
an inspiring voice  
deeply rooted in my heart*



## Table of Contents

Abstract.....	i
Author’s Declaration .....	iii
Acknowledgements.....	iv
List of tables and figures .....	xii
Acronyms .....	xiv
PART I ORIENTATION AND THEORETICAL FOUNDATIONS FOR THE STUDY .....	1
CHAPTER 1 INTRODUCING AND LOCATING THE RESEARCH .....	2
1.1    INTRODUCTION .....	2
1.2    RESEARCH AIMS, CONTRIBUTIONS AND ORIGINALITY OF THE STUDY.....	4
1.3    LOCATING THE STUDY IN THEORETICAL FRAMES .....	10
1.4    RESEARCH ASSUMPTIONS.....	13
1.5    OUTLINE OF THE THESIS.....	15
1.6    SUMMARY .....	17
CHAPTER 2 HIGHER EDUCATION AND SUSTAINABILITY .....	19
2.1    INTRODUCTION.....	19
2.2    THE HIGHER EDUCATION INTERNATIONAL COMMITMENT TO SUSTAINABILITY .....	21
2.3    THE UK CONTEXT .....	25
2.4    SUSTAINABILITY PRACTICE IN HIGHER EDUCATION .....	30
2.4.1    Leadership.....	30
2.4.2    Modelling.....	32
2.4.3    Community outreach and partnerships.....	40
2.4.4    The lack of deep progress .....	42
2.5    LIVING AND LEARNING SUSTAINABILITY IN HIGHER EDUCATION .....	43
2.5.1    Learning for sustainability.....	44
2.5.2    Step changes .....	51
2.5.3    Enhancing the sustainability learning experience in higher education .....	55
2.6    SUMMARY .....	56

CHAPTER 3 SOCIAL LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION.....	58
3.1    INTRODUCTION .....	58
3.2    THEORETICAL FOUNDATIONS OF SOCIAL LEARNING.....	59
3.2.1    Precursors of social learning .....	59
3.2.2    Identifying key ideas and contributions to social learning.....	64
3.3    SOCIAL LEARNING AND SUSTAINABILITY .....	66
3.3.1    Types of social learning for sustainability .....	67
3.3.2    Key strands and components of social learning for sustainability.....	71
3.4    FRAMING SOCIAL LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION.....	75
3.4.1    Developments and research in social learning for sustainability in higher education.....	76
3.4.2    Exploring social learning for sustainability in higher education through critical social theory .....	78
3.5    SUMMARY .....	83
CHAPTER 4 INDICATORS OF LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION.....	85
4.1    INTRODUCTION .....	85
4.2    WHAT IS AN INDICATOR? .....	85
4.3    SUSTAINABILITY INDICATORS.....	88
4.3.1    International momentum for sustainability indicators.....	88
4.3.2    National progress through sustainability indicators .....	91
4.4    INDICATORS OF LEARNING FOR SUSTAINABILITY .....	93
4.4.1    Learning for sustainability frameworks: A review of experiences .....	94
4.4.2    Types of learning for sustainability indicators .....	104
4.5    BENCHMARKING INDICATORS IN HIGHER EDUCATION .....	108
4.5.1    Higher education engagement in the use of learning for sustainability indicators.....	108
4.5.2    Learning for sustainability benchmarking and rankings: A review of experiences .....	110
4.6    SUMMARY .....	119
PART II METHODOLOGY AND RESEARCH PROCESSES.....	123
CHAPTER 5 CRITICAL SOCIAL RESEARCH METHODOLOGY .....	124
5.1    INTRODUCTION .....	124

5.2	CRITICAL SOCIAL THEORY AND SUSTAINABILITY RESEARCH.....	125
5.3	ORIGINS, BACKGROUND AND KEY THINKERS OF CRITICAL SOCIAL THEORY ....	127
5.3.1	The Frankfurt School.....	127
5.3.2	Reflexivity, sustainability and modernity.....	130
5.4	KEY CONCEPTS OF CRITICAL SOCIAL THEORY .....	132
5.4.1	Critique and theory.....	132
5.4.2	Power relations.....	133
5.4.3	Ideology and false consciousness .....	136
5.5	HABERMASIAN THEORY OF COMMUNICATIVE ACTION.....	138
5.6	PHILOSOPHICAL ASSUMPTIONS OF THIS CRITICAL SOCIAL RESEARCH .....	141
5.7	CRITIQUES OF CRITICAL SOCIAL RESEARCH .....	145
5.8	SUMMARY .....	147
CHAPTER 6 RESEARCH METHODS AND STRATEGIES FOR DATA COLLECTION AND ANALYSIS.....		149
6.1	INTRODUCTION.....	149
6.2	PLANNING THE RESEARCH METHODOLOGY .....	150
6.3	RESEARCH METHODS.....	153
6.3.1	Collective memory-work.....	153
6.3.2	Key informant input .....	169
6.3.3	Interviews.....	169
6.3.4	Review of institutional documents and websites .....	172
6.3.5	Researcher's journal .....	172
6.4	DATA ANALYSIS .....	173
6.5	RESEARCH QUALITY AND VALIDITY.....	178
6.5.1	Enhancing research quality and trustworthiness through reflexivity.....	179
6.5.2	Quality and validation strategies .....	181
6.5.3	Addressing research validity .....	183
6.6	ETHICAL CONSIDERATIONS .....	185
6.6.1	Informed Consent .....	185
6.6.2	Negotiating privacy, confidentiality and anonymity.....	186
6.7	SUMMARY .....	187

CHAPTER 7 RESEARCH DESIGN, STAGES AND PROCESSES .....	189
7.1    INTRODUCTION .....	189
7.2    EARLY RESEARCH DECISIONS.....	189
7.2.1    Outlining the research design and defining research criteria .....	190
7.2.2    Research Strategy.....	192
7.3    STAGE I: THE PILOT STUDY .....	194
7.3.1    Phases and processes of the pilot study .....	195
7.3.2    Reflections on the pilot study .....	197
7.3.3    Lessons learned from the pilot study.....	200
7.4    STAGE II: THE CASE STUDIES .....	203
7.4.1    Phase I: Gaining access to the institutions and members of staff .....	204
7.4.2    Phase II: Conducting collective memory-work.....	208
7.4.3    Phase III: Identifying institutional realities and opportunities of social learning for sustainability.....	213
7.5    LESSONS LEARNED AND REFLECTIONS FROM THE RESEARCH CYCLES AND PROCESSES .....	214
7.6    SUMMARY .....	217
PART III RESEARCH FINDINGS, FINAL REFLECTIONS AND CONCLUSIONS .....	219
CHAPTER 8 RESEARCH FINDINGS .....	220
8.1    INTRODUCTION .....	220
8.2    CONTEXT FOR THE CASE STUDIES .....	222
8.3    HOW AND WHERE DO OPPORTUNITIES FOR SOCIAL LEARNING FOR SUSTAINABILITY EXIST IN HIGHER EDUCATION?.....	229
8.3.1    Understanding what and how social learning for sustainability occurs in higher education .....	229
8.3.2    Analysing key issues and components of social learning for sustainability .....	248
8.3.3    Exploring contextual influences .....	254
8.4    HOW CAN SOCIAL LEARNING SHIFT THINKING AND ACTIONS OF STAFF (WITHIN THE INSTITUTION) IN THE AREA OF SUSTAINABILITY? .....	260
8.5    IS THERE A DIALECTICAL RELATIONSHIP BETWEEN SOCIAL LEARNING AND INSTITUTIONAL CULTURE FOR SUSTAINABILITY? .....	266
8.5.1    Does institutional culture influence social learning for sustainability? .....	267

8.5.2	Does social learning influence institutional culture for sustainability? .....	272
8.6	SUMMARY .....	274
CHAPTER 9 RESEARCH OUTCOMES, FINAL REFLECTIONS AND CONCLUSIONS .....		278
9.1	INTRODUCTION .....	278
9.2	A FRAMEWORK OF INDICATORS OF SOCIAL LEARNING FOR SUSTAINABILITY .....	279
9.2.1	Self-assessment and benchmarking indicators of social learning for sustainability .....	279
9.2.2	The indicator framework .....	285
9.3	CONTRIBUTIONS TO THE FIELD .....	288
9.4	LIMITATIONS AND FINAL REFLECTIONS ON THE RESEARCH PROCESS .....	294
9.5	FUTURE RESEARCH.....	297
9.6	SUMMARY .....	298
REFERENCES .....		301
APPENDICES .....		I
APPENDIX 1	LEARNING FOR SUSTAINABILITY INDICATOR FRAMEWORKS .....	II
APPENDIX 2	LEARNING FOR SUSTAINABILITY BENCHMARKING FRAMEWORKS .....	IX
APPENDIX 3	PARTICIPANT INFORMATION AND CONSENT FORM – Collective memory-work .....	XIV
APPENDIX 4	PARTICIPANT INFORMATION AND CONSENT FORM - Interviews .....	XV
APPENDIX 5	SUBJECTING THE RESEARCH DESIGN TO PEER REVIEW CRITIQUES.....	XVII
APPENDIX 6	THE PILOT STUDY AT THE UNIVERSITY OF GLOUCESTERSHIRE.....	XX
APPENDIX 7	CONDUCTING THE RESEARCH AT THE UNIVERSITY OF BRADFORD.....	XXXIII
APPENDIX 8	CONDUCTING THE RESEARCH AT THE UNIVERSITY OF BRISTOL.....	LVII
APPENDIX 9	INDICATORS OF SOCIAL LEARNING FOR SUSTAINABILITY – FEEDBACK FROM RESEARCH PARTICIPANTS .....	LXXVI

## List of tables and figures

Figure 1.1	Structure of the thesis.....	15
Figure 3.1	Critical strands of social learning for sustainability in higher education .....	79
Figure 4.1	Learning for sustainability indicators: shifting the paradigm.....	105
Figure 6.1	Research methodology.....	152
Figure 6.2	Phases of collective memory-work .....	160
Figure 6.3	Cyclical process of data analysis.....	174
Figure 7.1	Core stages and cycles of the research .....	193
Figure 8.1	Presentation of data and findings .....	221
Figure 8.2	Social learning for sustainability – keywords .....	248
Figure 8.3	Sub-cultures within the higher education institutions studied.....	268
Figure 8.4	Social learning for sustainability – keywords and influences.....	274
Table 2.1	International sustainability declarations and charters in higher education .....	21
Table 2.2	UK sustainability declarations and frameworks in higher education.....	26
Table 2.3	Core components of learning for sustainability .....	48
Table 2.4	Key processes of learning for sustainability .....	49
Table 3.1	Key ideas and contributions of social theories of learning .....	64
Table 4.1	Types of (social) learning for sustainability indicators in higher education.....	106
Table 5.1	Strategies to address and explore power issues throughout the research .....	135
Table 6.1	Addressing research validity .....	183
Table 7.1	Description of the phases of the pilot study .....	196
Table 7.2	Collective memory-work at the Universities of Bradford and Bristol .....	210
Table 8.1	Key information summarising the sustainability performance of the institutions studied.....	223
Table 8.2	Social learning viewed as an informal learning process.....	230
Table 8.3	Extra-curricular activities identified at the Universities of Bradford and Bristol .....	235
Table 8.4	Characteristics of extra-curricular activities which encouraged social learning for sustainability.....	238
Table 8.5	Purposes of social learning for sustainability.....	243
Table 8.6	Qualities of social learning for sustainability facilitators .....	254
Table 8.7	Critical factors of spaces which influence the quality of social learning for sustainability .....	255

Table 8.8	Impact of social learning for sustainability experiences.....	261
Table 9.1	Self-assessment indicators of social learning for sustainability.....	280
Table 9.2	Benchmarking indicators of social learning for sustainability .....	284

## Acronyms

AASHE	Association for the Advancement of Sustainability in Higher Education
AIDS	Acquired Immune Deficiency Syndrome
AISHE	Assessment Instrument for Sustainability in Higher Education
ANU	Australian National University
APCEIU	Asia-Pacific Centre of Education for International Understanding
ARIES	Australian Research Institute in Education for Sustainability
AUA	Alternative University Appraisal for Education for Sustainable Development
BEMA	British Environment and Media Award
BETS	Bristol Environmental Technology & Services Sector
BUST	Bristol University Sustainability Team
CEC	Commission of Education and Communication
CMW	Collective memory-work
CRES	Regional Conference on Higher Education in Latin America and the Caribbean
CRUE-CADEP	Conferencia de Rectores de las Universidades Españolas – Comisión de Calidad ambiental, el Desarrollo sostenible y la Prevención de riesgos en las universidades
CSD	Commission on Sustainable Development
Defra	Departments for the Environment, Food and Rural Affairs
DfES	Department of Education and Skills
DHO	Duurzaam Hoger Onderwijs
EAUC	Environmental Association for Universities and Colleges
EMAS	Eco-Management and Audit Scheme
EMS	Environmental Management Systems
ENSI	Environment and School Initiatives
ESD	Education for Sustainable Development
ESDGC	Education for Sustainable Development and Global Citizenship
ESI	Environmental Sustainability Index
ESR	Environmental and Social Responsibility



EU	European Union
EWB	Engineers Without Borders
FTE	Full-Time Equivalency
GHESP	Global Higher Education for Sustainability Partnership
GMEF	Global Monitoring and Evaluation Framework
GRI	Global Reporting Initiative
GULF	Global University Leaders Forum
GUNI	Global University Network for Innovation
HIV	Human Immunodeficiency Virus
HEA	Higher Education Academy
HEASC	Higher Education Associations Sustainability Consortium
HEEPI	Higher Education Environmental Performance Improvement
HEFCE	Higher Education Funding Council for England
HEFCW	Higher Education Funding Council for Wales
IAS	Institute of Advanced Studies
IAU	International Association of Universities
ICT	Information and Communication Technologies
IISD	International Institute for Sustainable Development
IJSHE	International Journal of Sustainability in Higher Education
INE	Instituto Nacional de Estadística
IPCC	Intergovernmental Panel on Climate Change
IRIS	International Research Institute in Sustainability
ISCN	International Sustainable Campus Network
IUCN	International Union for Conservation of Nature
JAWGP	Japanese Association for Geese Protection
JISC	Joint Information Systems Committee
LIFE	Learning in Future Environments
LSC	Learning Skills Council
NUS	National Union of Students
NGO	Non Governmental Organisation
MDG	Millennium Development Goals
MEEG	UN DESD Monitoring and Evaluation Expert Group

MESA	Mainstreaming Environment and Sustainability Education in African Universities
NMK	National Museums of Kenya
NEMA	National Environmental Management Authority
PCE	Parliamentary Commissioner for the Environment
ProSPER.Net Network	Promotion of Sustainability in Postgraduate Education and Research Network
QAA	Quality Assurance Agency for Higher Education
RCE	Regional Centre of Expertise
SDC	UK Sustainable Development Commission
STARS	Sustainability Tracking, Assessment and Rating System
STAUNCH	Sustainable Teaching Audit for University Curricula in Higher Education
TLR & KE	Teaching, Learning, Research and Knowledge Exchange
UCCCFs	Universities and Colleges Climate Commitment for Scotland
ULSF	University Leaders for a Sustainable Future
UK	United Kingdom
UN	United Nations
UNCED	United Nations Commission on Environment and Development
UN DESD	United Nations Decade of Education for Sustainable Development
UNECE	United Nations Economic Council for Europe
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNU	United Nations University
USA	United States of America
UtC	Universities that Count
UUK	Universities United Kingdom
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

## **PART I ORIENTATION AND THEORETICAL FOUNDATIONS FOR THE STUDY**

Part I introduces the doctoral study and the terrain which I cover in the research. It locates the study in the broader field of sustainability, delineates the research questions and discusses briefly the theoretical and methodological frames which underpin the study. This section continues by contextualising the research through reviewing emerging sustainability developments in higher education. I give emphasis on progress in the areas of leadership, modelling, and outreach and partnerships. I then turn my attention to developments in the area of learning for sustainability in higher education as this is where my research seeks to make a contribution. Key theoretical foundations on social learning for sustainability are then explained in order to gain insights on how this process may take place in a higher education institution. I stress that this is an under-researched area which needs further conceptualisation in the context of higher education. Finally, I review the relevance of indicators of learning for sustainability in enhancing sustainability performance in universities. Various sustainability benchmarking and ranking systems in higher education are examined and discussed in order to explore possibilities for the integration of social learning for sustainability indicators within these frameworks.

Part I is underpinned by the following chapters:

**CHAPTER 1     INTRODUCING AND LOCATING THE RESEARCH**

**CHAPTER 2     HIGHER EDUCATION AND SUSTAINABILITY**

**CHAPTER 3     SOCIAL LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION**

**CHAPTER 4     INDICATORS OF LEARNING FOR SUSTAINABILITY**

# CHAPTER 1 INTRODUCING AND LOCATING THE RESEARCH

## 1.1 INTRODUCTION

The current global economic crisis has shaken the stability of many countries around the globe and increased social, economic and health inequalities not only between the North and the South, but also across regional communities. This has occurred in parallel to several natural disasters in Japan, New Zealand, and China and at a time of social and political unrest in North African and Arab nations as well as extensive famine in Central Africa. Tensions in resource allocation arise as the process of sustaining life in vulnerable areas and the reconstruction of communities commences. All these examples of complex events combine to make sustainability one of the main challenges which our societies are currently facing (HEFCE, 2009; UUK, 2009).

The literature acknowledges that although sustainability is complex to define and address, there is agreement that we have to work towards improving people's quality of lives whilst protecting biodiversity, natural environments and resources (Hopkins & McKeown, 2002). Whereas science and technology provide environmentally friendly innovations, for example, through advancing alternative or renewable energy sources, the root (social) causes of unsustainability are yet to be challenged. Authors in this area assert that sustainability requires a paradigm shift. It calls for a rethink of how we learn, live and work (Lozano, 2006; Tilbury, 2011c).

It has been internationally recognised that education and learning can assist people in identifying and challenging those social structures, frameworks and practices which are threatening the wellbeing of communities, living systems and the environment (Sanusi & Khelgat-Doost, 2008; Sterling, 2001; Tilbury, 2011b). Schumacher (1973) explains that education is our 'greatest resource' as it helps us clarify our 'central convictions' and reflect on our assumptions and practices. He also points out that our current education is failing to engage learners in this important challenge and critical exercise. Orr (1991) and Sterling (2001) remind us that whereas education and learning are part of the solution, they are also part of the problem. Not all education will assist us in constructing more sustainable futures; learning for sustainability provides opportunities

for the exploration of alternative lifestyles or social scenarios (Sterling 1996, O'Sullivan 2004).

Learning for sustainability actively empowers learners to critically reflect and transform unsustainable practices (Huckle, 1996) and encourage a re-think of consumption habits or reducing carbon footprints. It is underpinned by transformative learning approaches (Sterling, 2011b; Wals & Blaze Corcoran, 2006) which involve learner participation and critical reflection on actions (Tilbury & Cooke, 2005) which can lead to deep or structural change in our societies and systems (Mezirow & Associates, 2000).

The United Nations Decade of Education for Sustainable Development (UN DESD, 2005-2014) has acknowledged that there is a need to emphasise learning (as opposed to teaching), as education is too frequently interpreted as an activity which takes place within the formal education system - i.e., facilitated by educators and teachers in a classroom (UNESCO, 2005). Learning can take place in any environment or context. Learning is a process in which people develop ways of seeing and interacting with the world around them. Moreover, learning influences the way people think, feel and act (PCE, 2004).

The higher education sector is uniquely and critically positioned to help achieve the sustainability goals (Calder & Clugston, 2003a; Cortese, 2010; UUK, 2009) as it creates and facilitates environments for students and staff to learn and live sustainably. Higher education institutions<sup>1</sup> also have the responsibility to act as beacons of social change for sustainability within the communities that they serve, as societies expect universities to act on their behalf and to serve the public good (Shaheen, 2011). It is acknowledged, however, that before higher education has the capacity to contribute to social transformation for sustainability, it needs to re-think its core social mission and re-orient itself (Tilbury, 2011c).

Sustainability research undertaken in higher education has been primarily focused on: (i) campus management and ecological footprinting; (ii) embedding sustainability in the

---

<sup>1</sup> Universities and colleges that offer higher undergraduate and/or postgraduate degrees.

curriculum; (iii) policy analysis; and/or (iv) development of theory (Wright, 2010). Research journals and papers document experiences of small scale change in institutions demonstrating the potential of universities to advance sustainability. Sterling and Scott (2009) affirm, despite these changes, higher education is far from transforming itself towards sustainability. The projects currently developed within this sector seem to be occurring on the fringes of organisations, rather than systemically embedded within core structures and institutional culture (Sharp, 2002). Research in higher education has not contributed to understanding the relationships between learning, sustainability and institutional change in higher education. My research is a response to this need and seeks to explore how learning which takes place in a social context does, or could, influence institutional cultures for sustainability.

Through this chapter, I seek to provide an understanding of the research terrain covered through this doctoral study. The chapter includes an outline of the research aims and ambitions of the inquiry and an identification of the needs which the study is seeking to address. This introductory chapter also identifies key points of originality and locates the study within theoretical frameworks. The chapter ends by outlining the flow of ideas presented through this thesis in order to help the reader navigate easily through the text.

## **1.2 RESEARCH AIMS, CONTRIBUTIONS AND ORIGINALITY OF THE STUDY**

This doctoral thesis seeks to develop a grounded understanding<sup>2</sup> of social learning experiences of staff in the area of sustainability and its potential to influence the sustainability performance of higher education institutions. The research explores social learning processes and whether they can influence, or are influenced by, institutional culture. The study proposes indicators as a key research outcome to assist institutions in improving their contribution to social learning for sustainability. It is hoped these indicators can primarily assist in self-assessment processes. The indicators can also serve

---

<sup>2</sup> Developing a grounding understanding of social learning implies exploring the concept through the data generated by the study. It borrows from the notion of grounded theory developed by Glaser and Strauss (1967).

to inform sustainability benchmarking seeking to assess the depth of sustainability culture within an institution.

The following research questions guided the research inquiry:

1. How and where do opportunities for social learning for staff in the area of sustainability exist in higher education institutions?
2. How can social learning shift thinking and actions of staff (within the institution) in the area of sustainability?
3. Is there a dialectical relationship<sup>3</sup> between social learning and institutional culture for sustainability?
4. How can we recognise social learning for sustainability and promote it within higher education? Which indicators would assist in this task?

This research has been designed in such a way as to attempt to:

- *Contribute to sustainability through improving universities' performance in the area of sustainability*

As mentioned earlier, higher education is in a critical position to address the sustainability imperative as it educates the future generation of professionals and gives responses to societal challenges (Calder & Clugston, 2003b; Lozano et al., 2010). Previous research suggests that universities are responding to this challenge and engaging in innovative activities which support sustainability developments (Sterling & Scott, 2009).<sup>4</sup> However, the potential of sustainability projects and initiatives in influencing core institutional processes is yet to be discovered (Sharp, 2002). I engaged in this research because I perceive that social learning is key to improving the

---

<sup>3</sup> The term 'dialectic' is a method of argument and communication central to Western philosophy. The term finds its origins in the work of Socrates, Plato, Hegel and Marx. In my research, the term 'dialectical relationships' is used to give emphasis on the importance of identifying both the tensions or contradictions and the agreements or common issues between social learning and institutional culture, to deeply understand how these processes take place in a higher education institution. It is used to capture the integral relationship component of how they can feed into each other.

<sup>4</sup> Please refer to chapter 2 for concrete examples on sustainability projects and initiatives implemented in higher education.

sustainability influence of higher education institutions. My research seeks to understand the potential of this learning process in engaging institutions in learning for sustainability. To do so, it is important to analyse how social learning is currently taking place in universities and how it may influence, and be influenced by, institutional culture.

A great number of universities are currently engaged in self-assessment practices, ranking systems and benchmarking frameworks to learn from best practices and improve their sustainability performance. Initially, these assessment tools tended to provide critical opportunities for universities to reflect on the process of implementing sustainability through campus operations and management. These frameworks have started to integrate indicators which reflect institutional engagement with learning issues associated with sustainability. Often, the key assessment areas related to learning for sustainability are limited to monitoring the extent to which institutions have incorporated sustainability issues within the formal curriculum, or provided informal learning opportunities for their students. Social learning aspects related to sustainability have been overlooked in the majority of these evaluation tools.

My research seeks to construct indicators of social learning with the aim of establishing possibilities for improving sustainability performance and its impact on higher education. An original component of my study is the process which led to the development of these indicators. In many cases, indicators are defined through existing theoretical frameworks in the literature and a process of testing in specific contexts. Since social learning for sustainability is a new area in higher education institutions, I have constructed the indicators based on the findings from my research. The indicators are therefore context-based in the sense that they have been developed from the findings generated in three institutions in the UK. Co-researchers and key informants participating in my research have provided feedback on the indicators and have identified their relevance to their institutions. It is hoped that future research will assess the value of the indicators presented in this thesis, in other institutional contexts.



- *Contribute to providing sustainability learning opportunities for staff in higher education*

Few research studies have focused on staff learning or considered staff as key agents of change within the institutions where they work. Most of the research in this area has centred on creating learning opportunities through professional development, particularly for academic staff (eg., Holdsworth et al., 2008). My research views the university campus and its social and professional environment as a laboratory of learning for sustainability. The sustainability initiatives organised, the spaces and time allocated for dialogue and social interaction are potentially important to challenge staff views on sustainability and negotiating strategic actions to transform institutional cultures towards sustainability. Although the needs for facilitating cultural changes in order to embed effectively sustainability issues within higher education has been widely acknowledged in the literature (Sterling & Gray-Donald, 2007; Tilbury & Ryan, in print), rarely has research engaged with this critical agenda. Thus, researching the mechanisms which enable higher education institutions to integrate sustainability components within their cultures is becoming increasingly important. My research aims to contribute to this agenda by exploring social learning of staff and its potential relationship with institutional culture and performance for sustainability.

- *Contribute to advancing theoretical frameworks of social learning for sustainability*

My literature review points to the absence of frameworks on social learning for sustainability in higher education. Glasser (2007) stresses that one of the crucial challenges is to develop a systematic review of existing applications and case studies of social learning. Whereas key documentation has reported experiences and conceptualised social learning for sustainability in the areas of policy-making, community development and consumer education, social learning in higher education has been subjected to no scrutiny (Lipscombe, 2009).

My research builds upon previous work in this area, and also extends the conceptual framework to be applicable to higher education institutions. The study aims to respond to the gap in the literature through exploring and mapping how social learning for sustainability occurs in higher education, and proposing ways to enhance it within this

educational sector. In chapter 9, future research in this area is proposed, in order to advance the theoretical framework of social learning for sustainability and create opportunities for implementation in higher education.

- *Continue to develop my own experience and expertise in the area of critical social theory and my need as a researcher to make a difference through the research act itself*

The key motivation for undertaking this research was to contribute to advancing sustainability knowledge, research and practice within higher education. The nature of this research and my previous research experiences influenced the choice of critical social theory and methodological innovation. As a researcher, I seek to study and also to make a difference through the research itself. Critical social theory is important in this research in order to create a certain impact on co-researchers and participating institutions. The intention is to provide to participants with a broad view and understanding of social learning for sustainability, so they can be more able to influence change through this learning process. To do so, a reappraisal of the main research method employed was undertaken, in order to enhance the critical reflection process of the research.

As a critical researcher, I am interested in exploring and questioning assumptions and views to seek possibilities for social change. This is a complex task which starts by challenging the ways we do research, select our methodological approaches, conduct the research and report the findings.

- *Develop creative and innovative ways of responding to research questions*

The empirical research documented in this thesis took place during 2008-2011 at three Universities in the UK. The pilot study was conducted at the University of Gloucestershire and the main findings were derived from the Universities of Bradford and Bristol. These universities have made an explicit commitment to sustainability and are internationally recognised for their developments in this area.

The key challenge faced when engaging in this ambitious research was dealing with a research area which had not been explored before. For this reason, a grounded understanding of how staff in higher education engage in social learning was required, before exploring the dynamics between social learning and institutional culture. Collective memory-work<sup>5</sup> was chosen as a research method to collect real experiences from staff about their social learning practices in the area of sustainability within their institutions. In each higher education institution, between 5-8 members of staff (academic, administrative and support) took part as co-researchers and engaged in a collective memory-work as a group. Co-researchers were involved in a participatory research process in which they reflected upon, wrote about and critically interpreted their own stories of social learning for sustainability within their institutions. As the primary researcher, I facilitated three collective memory-work sessions in each institution seeking to engage members of staff in identifying contextual issues influencing social learning for sustainability. Co-researchers' narratives, interactions and discussions between each other, one-on-one meetings, and a research diary helped to generate the data required to conduct the research. This reflective process, complemented by other research methods such as interviews with members of staff and a documentary review, assisted me in establishing an understanding of social learning for sustainability in the institutions studied. The results have informed the development of indicators of social learning for sustainability.

Using collective memory-work as the main research method added more challenges to the research as I could find no evidence that it had been employed before in the sustainability field. Therefore, as Lotz-Sisitka (2011b) points out, I became involved in a process of methodological experimentation in order to examine complex issues such as sustainability, learning and institutional culture. Engaging in this methodological process assisted me in pushing my own thinking and approaching the research focus from a range of different angles through encouraging diversity and multiple perspectives. I engaged in reflecting upon socially constructed meanings generated by co-researchers participating in my research and my own assumptions and interpretations as a researcher. Critical social theory provided an important lens to address power relations

---

<sup>5</sup> Please refer to section 6.3.1 which unpacks the theoretical underpinnings of collective memory-work.

which usually tend to take place in traditional research<sup>6</sup> and assisted in facilitating participatory spaces for dialogue and interaction. It also helped to challenge staff thinking and practices through the process of uncovering underlying assumptions and views. In chapter 6, section 6.3.1, a deep theoretical exploration of collective memory-work as reviewed in the literature is provided. Also highlighted, is the philosophical and methodological reappraisal of collective memory-work which was undertaken to suit the purposes of my study. Chapter 7 provides insights into how this method was conducted in practice using a critical approach, and the challenges which had to be overcome. It is to be hoped that this critical review of the method can be useful to other researchers seeking to explore and employ this data collection technique.

### **1.3 LOCATING THE STUDY IN THEORETICAL FRAMES**

Exploring social learning for sustainability in higher education requires the lenses provided by philosophical and theoretical frameworks which emphasise learning, reflexivity, criticality and social change. This study is informed by theories which unavoidably, as Fleetwood (2004) states, influence the ways in which my research identifies:

- what constitutes the reality of social learning for sustainability (ontology);
- what are the ways we know of social learning for sustainability (epistemology);
- and,
- how we can access ways of knowing social learning for sustainability (methodology).

These ontological, epistemological and methodological questions relating to understanding social learning processes and sustainability in higher education were investigated based upon critical social theories. The critical social methodology has much to offer on educational research and social change for sustainability as it rejects traditional approaches of teaching and learning and calls for more systemic, participatory and innovative perspectives which can empower learners to review change

---

<sup>6</sup> In traditional studies, research objects and subjects tend to be separated. The researcher studies people rather than involving them in the research process itself (Thomas, 2009).

for sustainability (Giroux, 2003). It assists in identifying the root causes of unsustainability and facilitating reflective spaces for challenging mindsets and lifestyles.

I was particularly influenced and inspired by Habermasian critical theory and his communicative action theory to conduct this research (Habermas, 1972, 1984, 1987). At the heart of his theory is the assumption that social actors, such as members of staff in a higher education institution, can enable social change through communicative interactions based on democratic principles. His theory enabled me to conduct research based on exploring participative and multiple realities of social learning and which generated knowledge through the co-creation of ideas and ideological critiques of power (Heron & Reason, 1997; Lincoln & Guba, 2000). Calhoun and Karaganis (2001) emphasise that Habermasian theory enables the establishment of a relationship between objectivist and subjectivist analysis of the research focus. It helps to conduct an objective analysis of higher education institutions as key environments for the emergence of social learning for sustainability and, at the same time, subjective analysis of this process through reflecting on staff experiences and stories within their institutions. Chapter 5, section 5.5, describes in detail the communicative action theory developed by Habermas and how it informs my research.

In terms of methodology, critical social theory and Habermasian communicative action provide interesting insights into how to undertake collaborative and participatory research with members of staff in a particular higher education context. They reinforce the need to challenge power structures embedded in research (i) giving voice to co-researchers or participant researchers and interested partners; (ii) sharing the research control with them; and, (iii) acknowledging influences, biases and values. In this study, I tried to negotiate the research process with members of staff, create opportunities for them to express their views, and reflect constantly on underlying interests and assumptions in my research diary and memos. I tried to illuminate some of these assumptions in the collective memory-work sessions in order to challenge co-researchers' perspectives and reflect upon my own understandings. My role as a researcher entailed being a research facilitator, moderating discussions, enhancing critical reflection and trust among co-researchers, and sharing and discussing the results

of the study with participants. I adopted the role of a reflective researcher and took part in the study itself, reflecting deeply on its processes and outcomes.

In summary, critical theory informs the following methodological principles and processes underpinning my study:

- Incorporating high levels of reflexivity and reflective practice throughout the research.
- Conducting collaborative and participatory research where knowledge is co-constructed.
- Embracing diversity and multiple perspectives as well as engaging in different ways in knowing and interpreting realities.
- Identifying dominant views, structures and contextual issues which restrict social learning and change for sustainability.
- Promoting ways to enhance the social learning experience in higher education.
- Exploring the historical contexts of universities through collective memory-work with co-researchers, in order to identify their influence in shaping current scenarios regarding social learning for sustainability.
- Embracing tolerance for ambiguity and promoting trust amongst co-researchers.<sup>7</sup>
- Facilitating learning in the area of sustainability to members of staff in order to upscale their thinking on social learning and institutional change for sustainability
- Acknowledging influences and including values in order to enhance the research validity and credibility of the study.

---

<sup>7</sup> Although this is not a key process underpinning the philosophy of critical social theory which can be dogmatic, it is how I have approached it and re-framed it in my research.

## 1.4 RESEARCH ASSUMPTIONS

Whittemore et al. (2001) state that the researcher's assumptions, previous knowledge and background influence the ways the research is approached, the data is interpreted and the results are reported. The intention of this section is to document some of my interests as a researcher and the research assumptions which underpin my study.

I have a special interest in learning for sustainability research practices which seek innovation and social transformation towards more just and environmentally sound societies (Lotz-Sisitka, 2002). I am particularly concerned with how 'more economically developed' societies, such as the UK, are dealing with sustainability through education and learning processes. I agree with Orr (1991) and Sterling (2001) that education has reinforced unsustainable values and practices, rather than challenging current systems and assisting learners in creating alternative futures. As an educator and researcher, I see the needs for critiquing, challenging and transforming the prevailing educational paradigm which is by its nature unidirectional, informational and instrumental. I believe it is important to encourage learning processes which are process oriented, responsive and participative, dynamic and collaborative, and with a focus on construction of meanings and action.

Many key authors and experts have influenced the critical ideas about learning for sustainability which I have developed during the past years and the ways I approach this doctoral research. To mention some, I have been inspired by authors such as David Orr, John Fien, John Huckle and Stephen Sterling who emphasise the needs for challenging the established educational paradigm; Heila Lotz-Sistika for her critical and participatory approach to sustainability learning and research; Arjen Wals and Etienne Wenger for their emphasis on the role of social learning in sustainability; Daniella Tilbury, Tarah Wright, Richard Clugston, Wynn Calder and Rodrigo Lozano (amongst many others) for their work on redefining higher education towards sustainability; and, Bob Doppelt and Peter Senge for their engagement in transforming organisations through learning-based change processes. As mentioned in the previous section, I was particularly influenced by Habermas's critical theory to frame this research as it gives emphasis on issues related to critique of power relations, social change and democratic participation. Critical social

theory has informed all my decisions, choices and research processes such as the ways I have collected and interpreted the data, presented the findings and constructed indicators. I acknowledge that most of my key influences are ideas framed in more economically developed countries where I have been educated and developed as a researcher. The reader should take this into account when examining how I have interpreted the data and reported the results.

As a critical researcher, I am also aware that my previous education and research experiences, as well as subjectivity and personal assumptions have inevitably influenced how I approach the study. In this context, I believe it important to reflect on the taken-for-granted beliefs underpinning my research in order to allow the reader interrogate and judge my work more effectively. The following research assumptions underpin my doctoral study:

- Sustainability is one of the most important agendas and global messages of hope of current societies. Engaging people in more sustainable lifestyles will ensure brighter futures for our planet and our societies.
- Sustainability can only be achieved through engaging people in transformative education and learning.<sup>8</sup>
- Encouraging social learning processes should be as important as reorienting the formal curriculum towards sustainability. Social learning is a process which can potentially assist institutions to engage in change for sustainability as it has a strong focus on participation and action.
- The socio-cultural nature of my study and its emphasis on analysing staff experiences on social learning requires a critical and qualitative approach to research. The first provides the tools to conduct a collaborative research giving voice to different members of staff. The second, as Denzin and Lincoln (2005) confirm, enables researchers to capture real stories of members of staff and describe more effectively their constructed meanings about the phenomenon under study.

---

<sup>8</sup> Transformative learning has been defined as “the expansion of consciousness through the transformation of basic worldviews and specific capacities of the self” (Elias, 1997, p. 3); or, the learning process of “becoming critically aware of one’s own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation” (Mezirow, 2000, p. 4).



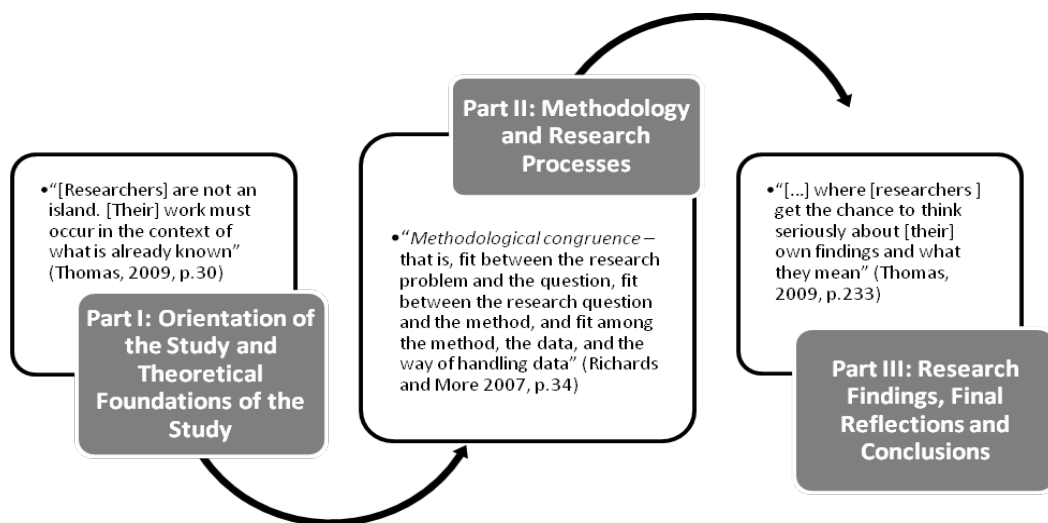
- Collective memory-work is a congruent research method with my study's critical framework and is able to capture stories of members of staff about their social learning experiences.
- The development of indicators can assist institutions to promote more effectively social learning processes in the area of sustainability.

Throughout the thesis, I hope that the reader is able to engage in my reflexive style of writing which reflects the critical approach of the research. As explained in chapter 6, section 6.5.1, I have tried to address reflexivity through clarifying my own positions about the topic under research and discussing the contradictions which I have encountered through the research process. The quality and validity described in chapter 6, section 6.5, should assist in judging the research assumptions outlined above, the trustworthiness and credibility of the findings and the research process itself.

## 1.5 OUTLINE OF THE THESIS

This doctoral study is organised in three distinctive parts (see figure 1.1) and structured in nine different chapters.

**Figure 1.1** Structure of the thesis



- *PART I: Orientation and Theoretical Foundations for the Study*

Chapter 1 introduces the thesis and the terrain which is covered in the research. It locates the study, outlines the research questions and discusses the theoretical frames which underpin the study.

Chapters 2, 3 and 4 clarify the theoretical foundations which frame the study. Chapter 2 reviews emerging trends in the area of sustainability in higher education. It highlights key sustainability developments at the university level, but also identifies needs for advancing this critical agenda. Chapter 3 goes into providing an understanding of social learning for sustainability. Social learning is unpacked through exploring social theories of learning and current approaches described by academics in the sustainability field. Finally, chapter 4 provides a literature review on indicators of learning for sustainability. It highlights key benchmarking and ranking systems in higher education which have developed indicators in this area and which could potentially integrate social learning indicators.

- *PART II: Methodology and Research Processes*

Chapter 5 presents the frames and lenses through which social learning for sustainability has been explored and interpreted. It outlines key philosophical assumptions and concepts of critical social research and explains in detail Habermas's thinking and ideas on communicative action upon which this thesis is based. Chapter 6 presents the research methods and techniques that have been employed to collect and generate the data in the three case studies. Issues related to data analysis, quality and validity are addressed as well as ethical considerations are summarised. Finally, in chapter 7, I present the research design detailing the different processes and phases in which I engaged to explore social learning for sustainability. The chapter outlines the challenges which had to be overcome during the research, and highlights the lessons learned.

- *PART III: Research Findings, Final Reflections and Conclusions*

Chapter 8 presents and reports the research findings derived from the case studies. It responds to the three first research questions posed by my study. It (i) describes how

social learning for sustainability takes place in higher education; (ii) showcases how it can shift thinking and action of staff in the area of sustainability; and, (iii) identifies whether there is a relationship between social learning and institutional culture for sustainability. Finally, chapter 9 presents the indicator framework developed to engage institutions in reviewing their own social learning for sustainability processes and outlines final reflections on undertaking this critical research. The chapter also suggests some directions for future sustainability research.

Appendices 1-9 provide additional information on literature review, research design, processes and findings.

## **1.6 SUMMARY**

This introductory chapter has attempted to explain the research areas which have been covered in my doctoral thesis. It has located the study in the broader field of learning for sustainability; outlined the key aims and research questions underpinning the research; and, specified the needs and original components of the inquiry. The chapter has also reviewed the theoretical frames and research assumptions underpinning the study which have guided me in addressing reflexivity, criticality, learning and social change throughout the research process.

Below, I recapitulate the key points arising from this chapter which have served to better understand the terrain covered in this study:

- 1) This doctoral study seeks to develop a grounded understanding of social learning of staff and its potential to influence the sustainability performance of higher education institutions. The study explores the dialectical relationships likely to exist between social learning and institutional culture for sustainability. Through understanding these critical dynamics, the study proposes indicators which can assist higher education institutions in improving their contribution to social learning for sustainability.
- 2) Several needs and gaps in the literature point to the needs for this research. These needs include: (i) improving sustainability performance in higher education through

the development of indicators; (ii) conducting sustainability research involving staff of higher education; (iii) advancing theoretical frameworks of social learning for sustainability; and, (iv) developing innovative research designs.

- 3) The originality of the study is the approach I took to conduct the research itself. I used innovative research methods such as collective memory-work to explore and reflect on how staff engage in social learning for sustainability and identify whether there is a relationship between this process and institutional culture. The process of constructing indicators is also innovative as indicators are usually developed through reviewing key literature in the area. The indicators presented in this thesis are based on the findings derived from the empirical research.
- 4) The study seeks to contribute to the emergent critical debates of social learning and institutional change for sustainability. Throughout the research process, I have tried to unpack the multiple meanings of social learning for sustainability and outlined its relevance in the higher education sector.
- 5) My previous educational and professional experiences as well as subjectivity unavoidably influence the ways I have reported and presented the data and findings of this study. As a critical researcher, I find it critical to surface this issue in order to help the reader interrogate the validity of the study. This chapter has outlined various research assumptions underpinning the study.
- 6) The study is informed by critical social theory. I was particularly influenced by Habermas's (1972, 1984, 1987) ideas and his communicative action theory. Critical theory has inevitably influenced the ways the research addresses ontology, epistemology and methodology. It informs a participatory research which seeks to give voice, share the research control and co-construct meanings with members of staff. It also enables me to question my influences and biases as well as to identify co-researchers' and participants' underlying assumptions.

## CHAPTER 2 HIGHER EDUCATION AND SUSTAINABILITY

### 2.1 INTRODUCTION

Sustainability is both a political and a community movement which challenges socio-economic systems and deals with the complexity which the world embraces. It calls for a paradigm shift in the ways we conceive and understand global dynamics, we learn, value, think and act (Sterling, 2001). It consists of engaging people, communities, corporations and governments in a learning process (Doppelt, 2010; Wals & Blaze Corcoran, 2006) in which mental models are constantly challenged and the roots of unsustainable practices are uncovered (Fien & Maclean, 2000). Engaging in sustainability implies learning from past and traditional experiences but, more importantly, being able to create innovative and alternative choices which allow people to live according to different values and principles (Edwards, 2010; Tilbury & Mulà, 2009). Sustainability seeks social changes through empowering people to take actions which lead to social justice, ecological resilience, economic balance and cultural freedom (Lotz-Sisitka, 2002; Wals & Blaze Corcoran, in print).

The critical potential of higher education in addressing this global concern has been widely acknowledged both internationally (Calder & Clugston, 2003a) and in the UK (UUK, 2009). This recognition is founded on the notion that universities have in the past played important roles as agents for social change (Beringer & Adomßent, 2008; Bowers, 2011; Cortese, 2003, 2010; Lozano et al., 2010). Research scientists have contributed to generating and advancing scientific knowledge (Benayas et al., 2010; Stephens et al., 2008; Tandon, 2008). For example, they have been key to addressing the hole in the ozone layer and more recently in informing adaptation and mitigation plans in relation to climate change. University leaders have also challenged dominant paradigms (Lozano, 2007; Tilbury, 2011c), for example, through promoting gender equality and cultural diversity.

In the current unstable economic and social climate, society has started to question the role of universities as their responses seem to be contributing to the global crisis, rather than providing alternative forms of development (Tilbury, 2011c). Perhaps more than

ever, society is influencing higher education institutions to rethink their role and core social mission in order to improve global and regional concerns such as economic development, community resilience, HIV/AIDS and climate change (Boks & Diehl, 2006; Galang, 2010; Lotz-Sisitka, 2011a). The literature, however, suggests that universities are struggling to respond to this societal call (Tilbury & Ryan, in print).

A review of the articles published in journals on sustainability or higher education over the last ten years documents how higher education institutions have engaged in implementing innovative sustainability projects and reorienting existing practice. Some commentators also note that these efforts are yet to challenge mainstream practice or strike at the heart of higher education provision (Benayas et al., 2002). They involve a small part of the university or college community. This is perhaps no surprise, given that sustainability requires a paradigm shift in higher education (Tilbury, 2011c; van Weenen, 2000; Velázquez et al., 2005). It challenges disciplinary divides, research orientation, teaching and learning as well as dominant management relationships. It involves transforming universities' architecture (Lotz-Sisitka, 2004), or institutional thinking and structures (Thomas, 2004). In essence, it implies engaging in a process of becoming 'learning organisations'<sup>9</sup> (Senge, 1990) towards sustainability. As Tilbury (2011c) argues, the sector needs to transform itself before it can serve as a model or catalyst for sustainability.

In this chapter, I present a brief overview of the key efforts and activities which have thrived across higher education institutions particularly in the UK. These are categorised into the areas of leadership, modelling, and outreach. As part of this review, I consider achievement and progress as a sector in these areas. I give special attention to the embedding of sustainability into education and learning plans and practices since education is at the heart of the higher education sector and is of central concern to my doctoral thesis. This review intends to clarify the context in which my research is

---

<sup>9</sup> As described by Senge (1990, p. 3), learning organisations are "organisations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together."

constructed and clarify the need for exploring the role of social learning processes in advancing sustainability in higher education.

## 2.2 THE HIGHER EDUCATION INTERNATIONAL COMMITMENT TO SUSTAINABILITY

There appears to be increasing interest by university leaders around the world to commit to sustainability in principle by signing key frameworks, declarations and charters (Beringer et al., 2008; Wright, 2002) (see table 2.1). Wright (2002) asserts that most of these documents address foundational sustainability themes such as improving universities' physical operations; embedding interdisciplinary approaches to sustainability into academic research and teaching and learning practices; addressing universities' ethical and moral responsibility; and, improving sustainability public engagement and outreach through cooperation and partnerships with governments, Non Governmental Organisations (NGOs) and industry. Grindsted (2011) identifies more than 31 sustainability higher education declarations worldwide and affirms that, globally, more than 1,400 universities have signed a declaration. Table 2.1 presents the key international sustainability documents.

**Table 2.1 International sustainability declarations and charters in higher education**

Year	Declaration/Charter	Partners involved	Scope	Short description/Keywords
1990	Talloires Declaration	University Leaders for a Sustainable Future (ULSF)	Global	First declaration specifically targeted to the higher education sector. <i>Keywords:</i> leadership for sustainability; support; mobilisation of resources.
1991	Halifax Declaration	Consortium of Canadian Institutions, International Association of Universities (IAU), United Nations University (UNU)	Global	The ethical and moral obligation of universities in addressing sustainability was recognised. <i>Keywords:</i> ethical obligation; shape present and future; leadership; development of policies and practices.

1993	Kyoto Declaration on Sustainable Development	IAU	Global	<p>Closely tied to Agenda 21 and the United Nations Commission on Environment and Development (UNCED) Conference in Rio de Janeiro 1992. It called for specific sustainability plans.</p> <p><i>Keywords:</i> sustainability action plans; ethical obligation; sustainability imperative; environmental education; sustainable physical operations.</p>
1993	Swansea Declaration	Association of Australian Government Universities	Global	<p>The declaration stressed the commitments outlined in previous documents.</p> <p><i>Keywords:</i> review of physical operations; environmental literacy and curriculum; ethical obligations; research and public service.</p>
1994	COPERNICUS University Charter for Sustainable Development	Association of European Universities	Regional (Europe)	<p>It called for a paradigm shift in European universities.</p> <p><i>Keywords:</i> core social mission; new frame of mind; whole-institutional commitment; environmental ethics and attitudes; education of university employees; programmes in environmental education; interdisciplinarity; dissemination of knowledge; cooperation and networking; partnerships; continuing education programmes; technology transfer.</p>
2001	Lüneburg Declaration	Global Higher Education for Sustainability Partnership (GHESP)	Global	<p>In preparation for the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg.</p> <p><i>Keywords:</i> key role of universities; catalyst for social change; globalisation, poverty alleviation, social justice, democracy, human rights, peace and environmental protection; generation of new knowledge; training of future trainers; curriculum re-orientation; lifelong learning.</p>
2002	Unbuntu Declaration	UNU, UNESCO, IAU, Third World Academy of Science, African Academy of Sciences and the Science Council of Asia, COPERNICUS-Campus, GHESP, ULSF	Global	<p>Called for the development of a global learning environment for learning for sustainability. It suggested the creation of networks and Regional Centres of Expertise (RCEs).</p> <p><i>Keywords:</i> review of programmes and curricula; attract future trainers; meet the Millennium Development Goals (MDG); knowledge transfer; development of an action-oriented tool kit for universities; development of sustainability strategies for reform; development of an inventory of best practice and case studies.</p>



2005	Graz Declaration on Committing Universities to Sustainable Development	COPERNICUS CAMPUS, Karl-Franzens University Graz, Technical University Graz, Oikos International , UNESCO	Global	Stresses the key opportunities which the Bologna Process creates for embedding sustainability across higher education.  <i>Keywords:</i> give status to sustainability in universities' strategies and activities; sustainability as a framework for the enhancement of the social dimension of European higher education.
2005	Bergen Communiqué	European Union (EU) education ministers, European Commission and other consultative members	Regional (Europe)	EU universities should build upon sustainability principles. For the first time since 1999, made a strong reference to the Bologna Process as a key mechanism to establishing a European Higher Education Area by 2010 and promoting the European system of higher education worldwide. The process should be based on the principle of sustainability.  <i>Keywords:</i> university reform supporting education for sustainability; interdisciplinarity; innovation to address social challenges; sustainability skills and learning objectives; employability.
2006	American College and University Presidents Climate Commitment	Association for the Advancement of Sustainability in Higher Education (AASHE)	National (United States of America - USA)	Aims to make campuses more sustainable and address global warming by bringing together institutional commitments to reduce and neutralise greenhouse gas emissions on campus.  <i>Keywords:</i> creation of emissions inventory; set a date for universities becoming 'climate neutral' within two years; sustainability into the curriculum and part of the educational experience; development of action plans, inventory and progress reports made publicly available.
2008	Declaration of the Regional Conference on Higher Education in Latin America and the Caribbean (CRES)	UNESCO	Regional (Caribbean and Latin American)	CRES was intended to be a contribution to identifying the major issues of Latin America and the Caribbean, looking toward the UNESCO World Conference on Higher Education in 2009.  <i>Keywords:</i> sustainability for social progress; cultural identities; social cohesion; poverty; climate change; energy crisis; culture of peace; democratic relations and tolerance; solidarity and cooperation; critical and rigorous intellectual ability.
2008	G8 University Summit Sapporo Sustainability Declaration	G8 University Network	Global	The aim was to develop common recognition of the need for global sustainability, to discuss responsibility of universities and provide messages to G8 leaders and societies.  <i>Keywords:</i> universities working closely with policy-makers, leadership for sustainability; re-

				orientation of education and curriculum; dissemination of information; training leaders; interdisciplinary perspective.
2009	World Conference on Higher Education	UNESCO	Global	Called on governments to increase investment in higher education, encourage diversity and strengthen regional cooperation to serve societal needs.  <i>Keywords:</i> advancement of understanding of multifaceted issues and our ability to respond; interdisciplinary focus; critical thinking; active citizenship; peace, wellbeing, human rights; education for ethical citizens.
2009	Turin Declaration on Education and Research for Sustainable and Responsible Development	G8 University Network	Global	The aim was to acknowledge the pivotal role that higher education institutions and scientific research organisations should play in supporting sustainability at global and local levels.  <i>Keywords:</i> new models of social and economic development consistent with sustainability principles; ethical approaches to sustainability; new approaches to energy policy; focus on sustainable ecosystems.

Source: Adapted from Tilbury (2011c)

Evidence exists to confirm that these declarations have influenced universities' decision-making and policy development (Clarke & Kouri, 2009; Grindsted, 2011; Wright, 2004). Calder and Clugston (2003b) acknowledge the importance of these documents as they reflect the prominence of the sustainability movement and agenda, and indicate sustainability trends and future directions. However, criticisms arise as no official evaluation exists to (i) report whether these declarations have been implemented in the universities which have endorsed them (Bekessy et al., 2007; Tilbury et al., 2005) or (ii) capture the challenges, opportunities and lessons learned throughout the implementation process (Wright, 2002). Research in this area acknowledges that whereas some universities have utilised these statements to guide the development of sustainability policies and strategies, many others have signed them for public relations and marketing purposes (Grindsted, 2011; Wright, 2002). Walton (2000) reminds us that endorsing these declarations is not a proof that universities are making genuine efforts and progressing in change towards sustainability.

Tilbury (2011c) asserts that it is the combination of government support and international partnerships which are driving authentic innovation and change for sustainability in higher education. International partnerships are directing efforts to support sustainability innovation in all areas of universities through the creation of networks and partnerships, exchange opportunities, development of publications and resources, collection of best practices, and development of research and assessment tools to assist organisations in their journeys towards institutional change for sustainability. For example, in Europe, the Copernicus-Campus<sup>10</sup> (2010) have developed guidelines to improve the integration of sustainability within the Bologna Process. In North America, AASHE<sup>11</sup> and Second Nature<sup>12</sup> work actively to help in embedding sustainability principles in every aspect of higher education. In Africa, the Mainstreaming of Environment and Sustainability in Africa (MESA)<sup>13</sup> Universities Partnership helps to embed sustainability in African universities. In the Asia-Pacific region, the Promotion of Sustainability in Postgraduate Education and Research Network<sup>14</sup> (ProSPER.Net) supports the integration of sustainability into postgraduate courses and curricula. At the international level, the Global University Network for Innovation (GUNI) contributes to the strengthening of the role of higher education in society through the renewal and innovation of higher education's main issues (see GUNI, 2011). Finally, at national levels, initiatives such as the Duurzaam Hoger Onderwijs<sup>15</sup> (DHO) in the Netherlands or the CRUE-CADEP<sup>16</sup> (Conferencia de Rectores de las Universidades Españolas – Comisión de Calidad ambiental, el Desarrollo sostenible y la Prevención de riesgos en las universidades) in Spain are good examples of national networks and associations which are responding to the rhetoric of the declarations.

### 2.3 THE UK CONTEXT

---

<sup>10</sup> <http://www2.leuphana.de/copernicus/>

<sup>11</sup> <http://www.aashe.org/>

<sup>12</sup> <http://www.secondnature.org/>

<sup>13</sup> <http://www.guni-rmies.net/observatory/bp.php?id=175>

<sup>14</sup> [http://www.ias.unu.edu/sub\\_page.aspx?catID=108&ddlID=697](http://www.ias.unu.edu/sub_page.aspx?catID=108&ddlID=697)

<sup>15</sup> <http://www.dho.nl/>

<sup>16</sup> <http://www.crue.org/Sostenibilidad/CADEP/>

In the UK, there is evidence of support for sustainability within higher education. This is reflected in the recent adoption of various authoritative declarations, strategies and action plans by national government bodies. The most prominent agreements and statements developed in the past ten years in this area in the UK are summarised in the table below (see table2.2).

**Table 2.2 UK sustainability declarations and frameworks in higher education**

Year	Declaration/Framework	Partners involved	Short description/Keywords
2003	<i>Sustainable Action Plan for Education and Skills</i>	Department of Education and Skills (DfES)	<p>Outlines an ambitious learning agenda for schools, colleges, universities and national agencies to operate in a more sustainable way and provide sustainability teaching and learning opportunities.</p> <p><i>Keywords:</i> development of sustainability skills, knowledge and value base; leadership in education, skills and international development; improving content and engagement in sustainability issues; environmental management; capacity building to local communities.</p>
2005	<i>Securing the Future Delivering UK Sustainable Development Strategy</i>	UK Government	<p>Emphasises that sustainability principles must be at the core of the education system including schools, colleges and universities.</p> <p><i>Keywords:</i> embed sustainability within higher education teaching and learning, management, leadership, and university engagement with the wider community; assist to create competitive economy; contribute to build sustainable communities; sustainability literacy.</p>
2005	<i>From Here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development</i>	Learning Skills Council (LSC)	<p>The Strategy reflects the LSC's engagement with sustainability. LSC is proactively committed to contributing to sustainability through its management of resources, the learning opportunities it offers and its engagement with the community.</p> <p><i>Keywords:</i> skills for sustainability; capacity building; baseline audit of sustainability activities within the sector; sustainability in the curriculum; embed sustainability within building and estates projects; community engagement; positioning the education sector.</p>

2006	<i>Education for Sustainable Development and Global Citizenship (ESDGC) – A Strategy for Action</i>	Welsh Assembly Government	Includes an action plan to address sustainability in the higher education sector.  <i>Keywords:</i> share good practice; self-assessment of how sustainability is taught; develop environmental managements systems; audit of the third mission initiatives; interdisciplinary research and funding.
2008	<i>UK Climate Change Act</i>	UK Government	Sets a target for the year 2050 for the reduction of targeted greenhouse gas emissions. The Act also sets the development of support and funding systems, structures and committees to ensure its implementation.  <i>Keywords:</i> reduction of targeted greenhouse gas emissions; provide a system of carbon budgeting; establish a Committee on Climate Change; confer powers to establish trading schemes to reduce emissions and schemes for waste management; make provision about adaptation to climate change; renewable transport fuel obligations; carbon emissions reduction targets.
2008	<i>Greening Spires / Universities and the Green Agenda</i>	Universities United Kingdom (UUK)	This is a report outlining the contribution of higher education to the ‘greening’ agenda.  <i>Keywords:</i> monitoring climate change; researching solutions; leading by example; working in partnership.
2009	<i>A University Leaders’ Statement of Intent on Sustainable Development</i>	UUK	This document is a commitment by universities’ senior managers to support the higher education leadership in relation to sustainability.  <i>Keywords:</i> make visible the senior management leadership for sustainability; develop sustainability strategies and targets; create sustainability partnerships; engage staff and students in identifying their ideas on a sustainable organisation and society.
2009	<i>Sustainable Development Strategy for Higher Education</i>	Higher Education Funding Council for England (HEFCE)	This document is HEFCE’s sustainability strategy for itself and for the way it interacts with the higher education sector.  <i>Keywords:</i> build synergies with stakeholders; share good practice; develop sustainability curricula and pedagogy; employer engagement; strengthen sustainability research; sustainability leadership; learning from other countries and sectors; capacity building; sustainable campus management; whole-institution approach; carbon management; sustainability reporting.

2010	<i>Carbon Reduction Target and Strategy for Higher Education in England</i>	HEFCE, UUK, GuildHE	<p>The higher education sector in England has agreed to commit to meet government targets for carbon reductions of 34% by 2020 and 80% by 2050 against a 1990 baseline. To secure their funding, higher education institutions have been pushed to reduce their carbon emissions through the development of carbon strategies and action plans.</p> <p><i>Keywords:</i> a sector-level target for carbon reductions aligned with UK targets; requirement for institutions to set their own targets for 2020; commitment from institutions to achieve actual improvements through the implementation of actions; support from HEFCE, UUK and GuildHE; HEFCE will link capital funding to performance against carbon management plans; annual monitoring and reporting on progress.</p>
2010	<i>Learning for Change: Scotland's Action Plan for the Second Half of the UN Decade of Education for Sustainable Development</i>	Scottish Government	<p>Action plan as a response to the United Nations Decade of Education for Sustainable Development (UN DESD, 2005-2014). In the higher education sector, the Scottish government has set up specific recommendations for universities on how to advance the sustainability agenda.</p> <p><i>Keywords:</i> monitor progress; sustainability skills; embedding sustainability in teaching and learning strategies; campus sustainability learning; student led activities; strengthening sustainability in teaching standards; interdisciplinary work; climate change action plans.</p>
2010	<i>Universities and Colleges Climate Commitment for Scotland (UCCCCS)</i>	The Scottish Government	<p>Encourages universities to commit to the challenge posed by climate change.</p> <p><i>Keywords:</i> reduction of greenhouse gas emissions; adaptation measures; publish a 5-year climate change action plan; work in partnership; cooperative and collaborative work with other sectors and the local community; publish results on progress.</p>

As illustrated in table 2.2, national and regional government authorities as well as funding councils from England, Wales and Scotland have supported this national priority enacting their own policies and encouraging universities to respond to this challenge (UK National Commission for UNESCO, 2010). In Northern Ireland, progress in the area of sustainability in higher education at the governmental level is still slow and yet to be reported. More work in this area is acknowledged to be needed to push trends in this

region. In Wales, it is also noteworthy that the Sustainable Teaching Audit for University Curricula in Higher Education audit tool (STAUNCH)<sup>17</sup> was sponsored by the Higher Education Funding Council for Wales (HEFCW) in 2008. STAUNCH is an innovative framework to assess the contribution of Welsh higher education institutions to learning for sustainability in the curricula. Glover et al. (2011) in an evaluation of the validity of this tool affirm that the major strength of STAUNCH is its success in improving the profile of ESDGC in a short period of time. However, they also point that the tool is unable to capture the quality and effectiveness of the curriculum content.

Responding to these declarations, frameworks and initiatives, the Higher Education Academy (HEA)<sup>18</sup> has taken an active role in supporting colleges and universities across the UK to embed sustainability principles. The HEA is trying to achieve this by supporting interdisciplinary projects, funding student research, organising workshops and consultancy projects and by supporting various networks, databases and publications in this area. In 2010, it funded the Green Academy<sup>19</sup> in association with the Environmental Association for Universities and Colleges<sup>20</sup> (EAUC) and the National Union of Students (NUS). This ambitious project aims to assist institutions achieve sustainability in the curriculum goals. Its focus is therefore on aspects of learning associated with sustainability.

As mentioned previously, I argue that whereas there is an obvious and ambitious international and national mandate for higher education to contribute to the sustainability agenda (Beringer et al., 2008), universities are struggling to respond to this commitment (Tilbury & Ryan, in print). The following section expands this debate not

---

<sup>17</sup>See: [http://www.brass.cf.ac.uk/projects/Rethinking\\_the\\_Future\\_for\\_Sustainability/rethinking-the-future-for-sustainability--STAUNCH.html](http://www.brass.cf.ac.uk/projects/Rethinking_the_Future_for_Sustainability/rethinking-the-future-for-sustainability--STAUNCH.html)

<sup>18</sup> The HEA is a UK national body which works with universities and individual academics to enhance and improve teaching and learning processes in higher education. See: <http://www.heacademy.ac.uk/home>

<sup>19</sup> For more information about the Green Academy, please visit: [http://www.heacademy.ac.uk/news/detail/2010/esd\\_green\\_academy\\_call\\_2011](http://www.heacademy.ac.uk/news/detail/2010/esd_green_academy_call_2011)

<sup>20</sup> The EAUC is a UK association with a membership of over 300 universities and colleges. It supports environmental and sustainability initiatives and developments in the higher and further education sector. For more information, visit: <http://www.eauc.org.uk/home>

only presenting concrete examples on how universities are progressing in this area, but also outlining some of the reasons why deep change in this area has not occurred yet.

## **2.4 SUSTAINABILITY PRACTICE IN HIGHER EDUCATION**

In this section, I highlight a variety of step changes in the area of sustainability which have recently taken place in higher education. Activities are documented in three different university areas: leadership, modelling, and community outreach and partnerships.<sup>21</sup> From the review of experiences and sustainability milestones in these areas, it is not only important to understand how higher education institutions are engaging with sustainability, but also to identify the current challenges within this sector. This information is useful for understanding the context in which my research is framed. The chapter then turns its attention to teaching and learning for sustainability which will be subjected to a deeper analysis as activities in this area are of direct relevance to this thesis.

This section gives an overview of global milestones in the area of sustainability in higher education. Specific examples from the UK are added as it is where my research finds its context.<sup>22</sup>

### **2.4.1 Leadership**

Strategic leadership is one of the key mechanisms for bringing about change for sustainability in a higher education institution (Wong, 2003). Sustainability leaders and senior managers can engage staff and students in change for sustainability; are able to set a university vision and mission based on sustainability principles and values; can inspire, support and manage change towards sustainability; and, set and motivate new directions (Lozano, 2006; Scott et al., 2008; Thomson & Green, 2005). In her doctoral thesis, Williams (2008) confirms that where leadership support is lacking, sustainability

---

<sup>21</sup> Auditing and benchmarking initiatives of relevance to higher education are further explained in chapter 4.

<sup>22</sup> It is important to note that other sustainability activities in higher education are also being implemented and have not been reported in this section. The scope and length of this chapter make it difficult to list all these initiatives.



initiatives fail to flourish or have a little impact on the whole of the university. She proposes a leadership model which can improve collaborative learning within and across disciplines and building capacity for establishing initiatives which engage organisations and their learning communities in change for sustainability.

Progress in the leadership area is identified in the growing number of senior managers appointed by universities to overview sustainability developments and performance at the institutional level. For example, this research has been conducted in three Universities in the UK (University of Gloucestershire, Bristol and Bradford) where Pro Vice-chancellors, Deputy Vice-chancellors and senior managers have been appointed or have taken the responsibility to lead change in the area of sustainability. Leadership teams, amongst other activities, have worked to ensure that the university adopts a sustainability strategy and embeds sustainability in its corporate plan and related policies.

A review of relevant literature and a web search also points out that some universities are engaging in creating leadership courses to train senior managers especially from the corporate sector. In the UK, for instance, the University of Cambridge launched in 2010 the first Cambridge accredited course<sup>23</sup> to offer leaders the opportunity to develop an understanding of sustainability issues. This example, though, is rare in the sector and, as some commentators confirm, it may not be directly relevant to higher education senior managers. Thriving academic and curriculum change for sustainability in universities requires a different model of leadership than the one provided for managers from the corporate sector (Tilbury, 2011c). Tilbury (2011a) and Lozano (2007) assert that the lack of capacity building and learning opportunities specifically offered to higher education managers may explain to some extent why universities have not succeeded in embedding sustainability systemically.

---

<sup>23</sup> For more information about this course, please visit: <http://www.cpsl.cam.ac.uk/Accredited-Programmes/Masters-in-Sustainability-Leadership.aspx>

## 2.4.2 Modelling

Managing operations sustainably at the campus level has been a key focus of sustainability efforts of universities internationally (Barlett & Chase, 2004; Benayas et al., 2002; Beringer & Adomßent, 2008; Gutiérrez Pérez & González Dulzaides, 2005). Experiences on 'greening the campus' have been widely documented in sustainability and higher education journals such as the International Journal of Sustainability in Higher Education (IJSHE) and the Journal of Cleaner Production. The most ambitious initiatives have been implemented in North American institutions where engagement in sustainability practice through the management of the university's campus has always been one of the key priorities since the sustainability movement started (see, for example, Wright & Elliott, 2011). Worthy of attention, is the International Sustainable Campus Network (ISCN) which has created a global forum to support higher education institutions to exchange information, ideas and best practice for creating sustainable campus operations and integrate sustainability into research and teaching activities (ISCN-GULF, 2010).

Modelling sustainability implies much more than implementing single projects that address piecemeal environmental aspects of an institution. Genuine sustainability modelling means to expand the green agenda through addressing and modelling issues like social justice or wellbeing on campus (see, for example, Walker, 2004). Although many institutions are currently looking at embracing the Global Reporting Initiative<sup>24</sup> (GRI) guidelines to start improving in these areas, only a few have reported innovative experiences (Lozano, 2011). An example of good practice is La Trobe University in Australia which addresses issues such as gender equality, anti-corruption and equal learning opportunities for indigenous people (La Trobe University, 2010).

Modelling sustainability also requires strategic actions which integrate learning and change for sustainability within the institution (Tilbury & Wortman, 2008). Schriberg (2002), in his doctoral thesis on campus environmental performance and leadership, emphasises that modelling sustainability should be addressed systemically allowing

---

<sup>24</sup> The GRI is a network-based organisation that produces a sustainability reporting framework that is widely used globally by various organisations. See: <http://www.globalreporting.org>

relationships between sustainability in teaching, research, service and operations. The aim is to view the campus as a 'learnscape'<sup>25</sup> for students and staff to learn practically about sustainability issues. It means connecting the sustainability messages embedded in the formal curriculum or research with practical living experiences within the university sites (Landscapes, 2004). Unfortunately, it is rare to find formal curriculum experiences linked to campus sustainability initiatives (McMillin & Dyball, 2009). An exception is the Australian National University (ANU) in Canberra that is known for its pioneering work in this area. ANU's Integrating Sustainability<sup>26</sup> programme linked the ANUGreen<sup>27</sup> and the Fenner School of Environment and Society<sup>28</sup> in order to promote learning for sustainability in the curriculum and offer the opportunity to students to engage in practical initiatives on campus (see McMillin & Dyball, 2009).

Environmental and sustainability footprinting has become a key focus of activity in higher education over recent years with an increasing number of:

- *Carbon management plans*

Carbon is a growing important agenda within the higher education sector (see UUK, 2008). In England, as previously mentioned, higher education institutions are required to reduce their carbon footprint and set ambitious carbon targets by 2020 to secure funding from HEFCE (see HEFCE et al., 2010). In 2010, after the release of the HEFCE's publication *Carbon Reduction Target and Strategy for Higher Education in England*, English higher education institutions rapidly responded to this commitment by developing institutional carbon management plans. Today, almost all institutions are starting to implement their frameworks.

---

<sup>25</sup>The Environment and School Initiatives (ENSI) have worked in different school 'learnscape' projects. See: [http://www.ensi.org/Projects/Former\\_Projects/Learnsapes/](http://www.ensi.org/Projects/Former_Projects/Learnsapes/)

<sup>26</sup> See: [http://www.anu.edu.au/anugreen/files/1011\\_WINNER\\_ANU\\_ISCN\\_2009\\_Impact.pdf](http://www.anu.edu.au/anugreen/files/1011_WINNER_ANU_ISCN_2009_Impact.pdf)

<sup>27</sup> ANUGreen is the University's environmental management programme. It has gained a national reputation for its sustainable campus operations. See: <http://www.anu.edu.au/anugreen/>

<sup>28</sup> The School through its education and training programmes prepares students with the necessary mix of disciplinary foundations and integrative and applied skills needed to address challenges and opportunities in environment and sustainability. See: <http://fennerschool.anu.edu.au/>

- *Environmental Management Systems and Certifications*

Over the past decade, as Lozano (2011) notes, many universities have sought to manage and improve their environmental performance through adopting Environmental Management Systems (EMS)<sup>29</sup> and working towards achieving the ISO 14001<sup>30</sup> and the European Union standard, Eco-Management and Audit Scheme (EMAS) (see, for example, Clarke, 2006; Herremans & Allwright, 2000; Jain & Pant, 2010; Nicolaidis, 2006; Noeke, 2000; van Oelreich, 2004). In the UK, so far, there are only a few universities which are accredited under ISO 14001 (Selby, 2007a). Whole university accreditations have been awarded to the University of Glamorgan, Gloucestershire and Queen's University Belfast. Other institutions have gained the ISO 14001 for part of their operations.

In England, a specific-sector EMS and award system, the EcoCampus,<sup>31</sup> was set up and funded by HEFCE in 2005. The project offers a complete scheme where member institutions are engaged in a critical process of designing, implementing and auditing a fully operational EMS. Currently, there are around 40 universities taking part in this initiative.

Lozano (2011) notes that whereas all these frameworks and reporting mechanisms are important to assess and communicate sustainability-related issues, their use and implementation are still at an early stage. He suggests that perhaps higher education should learn from the corporate sector which is far more advanced in the area of certification.

---

<sup>29</sup> EMSs are structured frameworks which enable universities (and other organisations) to manage organisational structures, practices, procedures and resources in an environmentally-sound approach. In addition, they can be compared to quality management systems.

<sup>30</sup> ISO 14001 was first published in 1996 and specifies the actual requirements for an environmental management system.

<sup>31</sup> For more information about EcoCampus, please visit: <http://www.ecocampus.co.uk/>

- *Sustainable procurement practice*

In recent years, higher education institutions have acknowledged that the procurement of goods, services and works has an important impact on sustainability as it affects the environmental, social and economic performance of universities (Helmink & de Jong, 2008). Sustainable procurement refers to embedding sustainability principles and practices into decision-making processes related to procurement - eg., new build, energy, waste, stationary, Information and Communication Technologies (ICT), equipment, food, etc. It primarily consists of identifying the sustainability impact of purchase and defining sustainability criteria to select and manage university suppliers. Since procurement directly affects professional practice, it has become an interesting learning opportunity for staff who find it difficult or complex to engage with the 'sustainability' rhetoric.

In the UK, the LSC and HEFCE sustainability strategies (see HEFCE, 2009; LSC, 2005) have identified procurement as a key process to advance sustainability in higher education. At the practice level, the EAUC started a 3 year project,<sup>32</sup> in 2005, funded by the Defra Environmental Action Fund, which aimed at supporting universities and colleges to integrate sustainability in their procurement practice. The challenge was taken by 17 universities across the UK including the University of Gloucestershire and Bristol where my research has been conducted.

- *Adoption of ethical or social investment practices*

A growing area related to university finance and sustainability and directly linked to sustainable procurement policies is the adoption of ethical or socially responsible investment practices (Sparkes, 2002). Some universities in the UK and worldwide engaged in sustainability are trying to ensure that their institutional investment is consistent with their corporate plans and sustainability strategies. For example, the University of Brighton, in the UK, has committed to take an ethical approach to investment decisions. The University is committed to understand and influence the sustainability and ethical policies of organisations, companies and investment funds into

---

<sup>32</sup> For more information about this project, see: [http://www.eauc.org.uk/sustainable\\_procurement1](http://www.eauc.org.uk/sustainable_procurement1)

which they invest; will not invest in organisations or companies which violate international conventions on human rights or participate in unsustainable activities; and, will give active consideration to those organisations which have adopted similar sustainability and ethical values to the University.<sup>33</sup>

In the UK, the importance of this agenda is also reflected by the student body which over time has been influencing the universities' investment practices. For instance, the People&Planet<sup>34</sup> network has set up an ethical investment campaign<sup>35</sup> in which students are engaged in lobbying and influencing how universities invest their capital as well as raising awareness of this critical issue to staff and students.

- *Sustainable ICT practices*

A recent SusteIT project<sup>36</sup> report commissioned by the Joint Information Systems Committee (JISC) estimates that UK universities and colleges as a whole utilise nearly 1,470,000 computers, 250,000 printers and 240,000 servers. It states that in 2009 ICT-related electricity bills summed up to around £116m. The report confirms that ICT practices are directly emitting over 5,000,000t of carbon dioxide (CO<sub>2</sub>) emissions from this electricity use (James & Hopkinson, 2009). These figures demonstrate the urgent need for higher education (especially in more economically developed countries) to

---

<sup>33</sup> The University of Brighton's ethical investment framework can be seen at:

<http://staffcentral.brighton.ac.uk/xpedio/groups/public/documents/staffcentral/doc010789.pdf>

<sup>34</sup> People&Planet is a student network in the UK which campaigns and lobbies in the areas of human rights and environmental issues. For more information, visit: <http://peopleandplanet.org/>

<sup>35</sup> For more information about this campaign, see:

<http://peopleandplanet.org/corporatepower/ethicalinvestment>

<sup>36</sup> The SusteIT (Sustainable IT in Tertiary Education) initiative reviews the environmental and social impacts of ICT in further and higher education. For more information, visit:

<http://www.susteit.org.uk/overview/index.php>

rethink the use of ICT in order to minimise environmental and social impacts<sup>37</sup> as well as to maximise their potential in sustainability.<sup>38</sup>

An example of ICT improvements in the UK higher education sector is the on-going Scottish Sustainable Information and Communication Technologies (ICT) Carbon Management Project,<sup>39</sup> an initiative run by EAUC and funded by the Scottish Funding Council in 2009. The project supports any type of improvement actions which will produce quantifiable savings in energy and carbon in the university context. As reported by the EAUC (see EAUC project flyer),<sup>40</sup> Scottish universities participating in this project have already achieved positive results in terms of energy savings and costs.

Despite all these measurable outcomes, James and Hopkinson (2009) remind us that, to date, much work is needed to create awareness amongst staff and students and provide opportunities to engage in this area more meaningfully.

- *Sustainable laboratories*

University laboratories, important for teaching and learning as well as scientific research activities, are large energy and resource users which provide many opportunities to examine the way they could be sustainably managed (Woolliams et al., 2005). Laboratories are complex university spaces in which a great number of chemicals and materials as well as sophisticated equipment are constantly used. For this reason, many higher education institutions worldwide are implementing innovative projects to 'green' these spaces.

---

<sup>37</sup> For example, increasing energy use, acceleration of climate change, growing inequality for those people who are not able to access new technologies, increasing use of resources.

<sup>38</sup> For example, increasing accessibility of goods and services, efficient and sustainable use of resources, support of innovation in the area of sustainability.

<sup>39</sup> More information about this project can be found at:  
[http://www.eauc.org.uk/sustainable\\_ict\\_in\\_scottish\\_further\\_and\\_higher\\_edu](http://www.eauc.org.uk/sustainable_ict_in_scottish_further_and_higher_edu)

<sup>40</sup> See: [http://www.eauc.org.uk/greening\\_ict\\_with\\_jisc](http://www.eauc.org.uk/greening_ict_with_jisc), for more information about this the JISC project.

In the UK, the S-Lab programme,<sup>41</sup> funded by the four UK higher education funding councils, aims to help institutions to create more sustainable laboratories. The programme has three key areas of work: (i) laboratory design (creating partnerships with owners, suppliers and UK organisations); (ii) laboratory operation (working actively with laboratory managers and technicians); and, laboratory users (working together with staff and students). As part of the S-Lab project, the Higher Education Environmental Performance Improvement (HEEPI)<sup>42</sup> is developing a series of short case studies<sup>43</sup> on best practice in university laboratory design and management. Currently, best practices have been collected from Queen's University of Belfast, Queen Mary University of London, Universities of Edinburgh, York, Newcastle, Nottingham, Oxford, Cambridge, Newcastle and Bradford.

- *Sustainable transport policies and initiatives*

In order to reduce the institutional footprint, many universities involved in sustainability have developed strategic planning approaches as well as implementing innovative actions to reduce the impacts of travel (Balsas, 2003).

In the UK, for example, many higher education institutions have moved from creating awareness about transport to developing strategic sustainable transport action plans (eg., University of Bristol, Bournemouth, Hertfordshire, Sheffield, Leeds Metropolitan, Leicester, Oxford Brookes, Aston, Anglia Ruskin, Queen Margaret, Derby, East Anglia, Plymouth or Warwick). Innovative practices related to car parking management, car sharing, walking and cycling, and public transport have been implemented. For example, at the University of Sheffield, LPG powered car users have a parking permit charge reduction of 40%. The University of Warwick launched, in 2008, a staff car-sharing scheme called WarwickShare.<sup>44</sup> In 2010, nearly 10% of all staff signed up to the scheme.

---

<sup>41</sup> For more information about this initiative, visit: <http://www.goodcampus.org/s-lab/>

<sup>42</sup> HEEPI is an initiative which aims at improving environmental performance in UK colleges and universities. For more information, see: <http://www.heepi.org.uk/>

<sup>43</sup> Visit: <http://www.goodcampus.org/s-lab-cases/index.php>, for more information about the S-Lab initiative and case studies developed by HEEPI.

<sup>44</sup> More information about this initiative can be seen at: [http://www2.warwick.ac.uk/institute/newsandevents/intnews2/car\\_share\\_with/](http://www2.warwick.ac.uk/institute/newsandevents/intnews2/car_share_with/)



In Leeds, an initiative called Velocampus Leeds<sup>45</sup> provides supported yearly/part yearly low cost bike hire for students enrolled at the University of Leeds, Leeds Metropolitan and Leeds Trinity. At the University of Sheffield, the fees for first year students include 25 bus trips. Students can then buy the next 10 bus trips for less than 50% cost of a single trip.

- *Waste management and recycling policies*

Large quantities and types of waste are generated at universities from their residence halls, catering facilities, offices, laboratories, etc. For a long time, waste management has been one of the areas in which universities across the globe have been working hard.<sup>46</sup> For example, in the UK, this can be appreciated in the People&Planet Green League 2011<sup>47</sup> where the majority of universities participating in the scheme have reported having a waste management plan. In England, HEFCE has also funded the ambitious project Moving Towards Zero-Waste<sup>48</sup> aimed to collaborate and work with different universities to implement, improve and rethink reuse schemes in residence halls.

Arguably, the student body, supported through People&Planet and NUS, have driven much of the modelling on campus agenda and implemented innovative projects and initiatives in the area of waste management and recycling. As an example, at the University of Gloucestershire, the Big Green Broom Project is a joint initiative with the student union, accommodation and estates departments to ensure that the staff who clear the students' halls of residence collect all the waste materials left by students at the end of the academic year. Estates then stores this waste material over the summer and the Sustainability Team at the University organises the resale of all saleable items to new students at Fresher's Fayre in September. This project aims to reduce the waste created by students in halls of residence and to increase the University's recycling rates.

---

<sup>45</sup> See: <http://www.leeds.ac.uk/velocampus/>, for more information about the Velocampus Leeds initiative.

<sup>46</sup> This section does not focus on ICT or laboratory waste as these have been addressed through other initiatives, such as the ones explained in the sections above.

<sup>47</sup> See: <http://peopleandplanet.org/green-league-2011/table>

<sup>48</sup> For more information about this project, visit: [http://www.eauc.org.uk/zero-waste\\_in\\_student\\_halls](http://www.eauc.org.uk/zero-waste_in_student_halls)

It also aims at ensuring that students with less disposable income get a chance to purchase useful items at the Fresher's Fayre.

- *Student Allotments and Community Gardens*

Many universities in the UK, such as the University of Bradford, Exeter, Gloucestershire and York to mention some, support allotment projects within the institutions. The allotment initiative has proved to engage staff and students to work together to cultivate communal plots and learn about environmental and social practices.

The most ambitious projects are those which have sought to involve the local community in sustainability practice. A web search, though, confirms that these initiatives are not common. A good example is the University of Gloucestershire and its Edible Garden Project.<sup>49</sup> This is a joint venture between the University of Gloucestershire, St Pauls Road Area Residents' Association and Gloucestershire Police. Students, staff and the local community work together on a practical community project gaining skills on community building, permaculture design, food awareness, and ecological literacy.

### **2.4.3 Community outreach and partnerships**

Over the years, universities have learned that progressing in the area of sustainability implies reaching the local community which they serve and providing opportunities which involve different groups and stakeholders with diversity of interests, perspectives and backgrounds to negotiate pathways for sustainability (Lotz-Sisitka et al., 2010; Megg, 2008; Scott-Baumann, 2007).

Recently, a growing number of outreach activities and partnerships between universities and the local community have been created to help to improve regional development and capacity-building processes in the area of sustainability (Barnes & Phillips, 2000; Lozano, 2007; Mochizuki & Fadeeva, 2008; Ryan et al., 2010). In a recent publication, Lotz-Sisitka (2011a) reflects on the emerging trends of re-defining the university-

---

<sup>49</sup> For more information about the Edible Garden Project, please visit: <http://www.ecoling.net/garden.html>

community relationships in Africa. She confirms through evidence-based research that higher education institutions are engaging in and addressing local challenges such as conflict resolution, peace building, security and HIV/AIDS.

Progress in this area can be identified in the increasing number of the following:

- *United Nations University Regional Centres of Expertise (UNU RCEs)*

An RCE<sup>50</sup> is a UNU initiative which aims at facilitating capacity-building and promotes learning for sustainability as a response to the UN DESD (Mochizuki, 2007). Usually, RCEs are hosted by universities and focus on strengthening links, forming partnerships and developing joint projects with community organisations (see, for example, RCE experiences reported by Dahms et al., 2008; Leal Filho & Schwarz, 2008; Mader & Zimmermann, 2008; Rickers, 2008). RCEs build innovative platforms for sharing information, establishing dialogues and communication amongst local stakeholders (Kitamura & Hoshii, 2010). There are currently 85 RCEs worldwide of which 6 are based in the UK.

- *Universities participating in sustainability initiatives and campaigns driven by NGOs*

More often, universities are starting to join externally driven initiatives (both at the community and international level) to raise awareness and engage in sustainability issues (Lipscombe et al., 2008). The Earth Day (22 April) is a good example of how universities engage with the sustainability movement created at the international community level. Many universities around the world and in the UK, including the three universities where my research has taken place, have joined the Earth Day Network<sup>51</sup> initiative and celebrate on the 22 April or during a whole week (the Earth Week) by providing a series of workshops and activities to engage staff and students in environmental dialogue and discussions.

---

<sup>50</sup> Visit [http://www.ias.unu.edu/sub\\_page.aspx?catID=108&ddlID=183](http://www.ias.unu.edu/sub_page.aspx?catID=108&ddlID=183), for more information about the UNU RCE initiative.

<sup>51</sup> For more information about this campaign, visit: <http://www.earthday.org/>

- *Sustainability partnerships*

A number of higher education institutions are currently functioning within a framework reliant on partnership work and outreach to improve sustainability services and projects (Barnes & Phillips, 2000). An example of how universities work towards enhancing sustainability outreach activities is Kingston University London.<sup>52</sup> One of the main objectives of the University's Sustainability Hub is to make a difference in the local community. The University has set up a target of working with at least ten different community organisations each academic year in the area of sustainability. Workshops, lectures and projects have been organised to enhance sustainability dialogues between University students and staff and the local community.

An example of partnership between a university and an international NGO is the One Planet MBA which was launched in September 2011. The MBA has been developed by the University of Exeter in partnership with World Wide Fund for Nature (WWF)<sup>53</sup> and aims to train business leaders about environmental and sustainability challenges. It is important to remark, however, that examples such as this one where an external organisation is partnered for formal curriculum offering is rare in the UK and internationally. I have showcased this example to illustrate the potential areas which can be enhanced in higher education.

#### **2.4.4 The lack of deep progress**

Prominent indications have been reported which demonstrate that universities are responding to the sustainability mandate and engaging in activities in relation to sustainability (Calder & Clugston, 2003a; Ferrer-Balas et al., 2008). The pace is still slow (Velázquez et al., 2005) and has proved to be complex especially to those universities which seek structural and cultural changes. The reality is that the majority of sustainability activities in higher education have had little impact on transforming the whole institutional culture and have failed to inspire a widespread institutional change

---

<sup>52</sup> See: <http://www.kingston.ac.uk/sustainability/community.html>, for more information about Kingston University London sustainability outreach activities.

(Sharp, 2002). The projects showcased in this section have contributed to engaging staff and students in sustainability activities as well as reducing the university's environmental footprint. However, when the funding recedes or key university champions take on new responsibilities or leave the institution, these initiatives reveal their lack of support within the institution (Calder & Clugston, 2003b). Also, little space is usually given within these initiatives to challenge power relations which restrict the integration of sustainability issues or to identify key opportunities to enhance innovation in this area (Wals & Jickling, 2002). For these reasons, some universities have realised that long term impact of sustainability projects can only be achieved if strategic actions are taken to change the current academic and management structures (Tilbury & Ryan, in print).

A paradigm shift on how higher education is engaged in sustainability has been suggested by many authors in this area (Lotz-Sisitka, 2004; Thomas, 2004; van Weenen, 2000; Velázquez et al., 2005). More strategic and systemic thinking is required in order to create opportunities to embed sustainability within the core of institutional culture (Sterling, 2004). This implies engaging all the university community - staff, students and the local community, in working together to influence university leadership, operations, management, curriculum and research. As Sterling (2011a) explains in a recent interview<sup>54</sup> by Terril Shorb, it is the time for higher education institutions to move from seeing themselves as teaching and research organisations (and increasingly as businesses too) to learning organisations that become structures that learn. In this context, the reorientation of higher education depends quite significantly on the learning provision and practice within higher education (Sterling, 2004).

## **2.5 LIVING AND LEARNING SUSTAINABILITY IN HIGHER EDUCATION**

Orr (1991, pp. 7-8) alerts us that environmental destruction "is not the work of ignorant people. Rather it is largely the result of work by people with BAs, BScs, LLBs, MBAs and PhDs." Arguing along the same lines, Martin and Jucker (2005) note that most of the

---

<sup>54</sup> For further details about this interview, visit:  
[http://www.journalofsustainabilityeducation.org/wordpress/content/sustainability-education-invites-learners-to-anticipate-and-shape-the-future-terril-shorb-interviews-stephen-sterling\\_2011\\_03/](http://www.journalofsustainabilityeducation.org/wordpress/content/sustainability-education-invites-learners-to-anticipate-and-shape-the-future-terril-shorb-interviews-stephen-sterling_2011_03/)

leaders attending and taking part in the decision-making processes of the World Summit for Sustainable Development in Johannesburg 2002 and who failed to push the sustainability challenge had been trained in the most prestigious universities worldwide. The main conclusion that one may draw from these authors' observations is that higher education has not contributed to build a sustainable future and has failed to prepare future leaders and professionals to understand, communicate and engage in sustainability in their professional careers. Perhaps more than ever there is an urgent call for higher education institutions to question and rethink their core mission, i.e. teaching and learning, if they are truly committed to engage meaningfully in the sustainability agenda (Blaze Corcoran & Wals, 2004). Yet, the curriculum and pedagogical approaches are in need of reorientation, but also how the university itself engages in learning for sustainability and involves all the institutional community in living this process (Jones et al., 2010a).

This section is central to my doctoral thesis as it is where I aim to make a contribution. I am interested in learning processes associated with sustainability and how these can engage institutions in a re-orientation process towards sustainability. Firstly, I describe the learning for sustainability movement and outline its main components and processes. I then summarise progress in this area across higher education. The chapter argues that single case studies or pilot research in the area of learning for sustainability have not achieved real and lasting changes in the core activities of higher education institutions. Most of these projects have been targeted at students and have sought to re-orient the formal curriculum. I conclude that few opportunities have been created for staff and students to learn outside the formal curriculum and educational structures and live sustainability through the university campus as a social learning experience. I stress that social learning for sustainability has been subject to little attention. My study explores whether this learning process can bring about change in a higher education institution.

### **2.5.1 Learning for sustainability**

Underpinning the process of embedding sustainability into the higher education's curriculum and learning processes is the international movement of Education for

Sustainable Development (ESD) – the term is often interchanged with education or learning for sustainability. Throughout this thesis, I refer to learning for sustainability as it reflects more accurately the social learning language in which my study is engaged.

- *An international commitment*

The learning for sustainability movement evolved from the nature conservation and environmental education discourses as well as from global and development education frameworks which were prominent in the 1970s and 1980s. In this chapter, I have not gone into much detail about the historical developments of this movement, as it has already been well-documented in other theses in this area (see, for example, Díaz González, 2009; Junyent i Pubill, 2002; Medir i Huerta, 2007; Piñeiro García León, 2011; Podger, 2009; Togo, 2009). I have stressed, however, key conferences and gatherings which have greatly influenced the ways we now conceive education or learning for sustainability and focus on current frameworks such as the UN DESD.

The Stockholm Conference (1972) is considered to be pivotal in shaping the learning for sustainability agenda as it emphasised for the first time the key role of education in addressing environmental problems and concerns. Whilst this conference was primarily concerned with environmental issues, the centrality of education in creating sustainable futures was acknowledged in the UN Conference on Environment in Rio<sup>55</sup> (1992) through chapter 36 of Agenda 21.<sup>56</sup> This historical document made an international call for all nations to reorient education towards sustainability. McKeown (2002a), reminds us, that learning for sustainability, unlike most education movements, was instigated by ‘outsiders’ of the education community. It was primarily conceived and framed in international political and economic forums and UN conferences.

In 1996, there were warning signs in the Secretary General’s Report to the Commission on Sustainable Development that identified education as the ‘forgotten priority of Rio’

---

<sup>55</sup> The concept of sustainability and the key role of education to contribute to a sustainable future gained popularity with the Rio Earth Summit (1992).

<sup>56</sup> Agenda 21 is an international agreement made at the first Earth Summit held in Rio de Janeiro in 1992. It is a comprehensive plan of action to be implemented globally, nationally and locally.

(UN Economic and Social Council. Commission on Sustainable Development, 1996). A report on the lessons learned about the contribution of education and learning to sustainability over the decade between the Rio Summit (1992) and the next World Summit on Sustainable Development in Johannesburg (2002a) also acknowledged that whereas some progress had been achieved at national and international levels, more efforts were needed to influence wider policy and practice in this area (UNESCO, 2002). To push the agenda forward and move ahead the implementation of learning for sustainability, the idea of a UN Decade of Education for Sustainable Development was recommended at Johannesburg.

On 20 December 2002, at its 57<sup>th</sup> session, the United Nations General Assembly officially adopted Resolution 57/254 to declare the UN DESD, designating UNESCO as the official international lead agency. Spanning 2005 to 2014, the UN DESD aims to engage stakeholders and national governments in transforming and reorienting all aspects of education and learning as well as all areas of life such as community, workplace and society towards sustainability (UNESCO, 2005). The UN DESD vision encompasses social justice and the fight against poverty as key principles of sustainability and commitment to achieving the MDGs.<sup>57</sup> This international platform also seeks to enhance international cooperation on learning for sustainability, encouraging stakeholders from different cultural backgrounds to share visions and create pathways for a more sustainable future (UNESCO, 2005).

In 2009, the UN DESD celebrated its mid-term at the UNESCO World Conference on ESD in Bonn (30 March – 2 April 2009). The conference aimed at reviewing the progress of the first half of the UN DESD and set key actions and priorities for the second half of the Decade. The first UN DESD Global Monitoring and Evaluation Report (Wals, 2009) centred on learning for sustainability contexts and structures was released in Bonn. It reminded stakeholders that no country had managed to integrate sustainability into education structures and systems (Mulà & Tilbury, 2011). In this context, the Bonn Declaration (UNESCO, 2009b) and the UNESCO *Strategy for the Second Half of the DESD*

---

<sup>57</sup> The eight MDGs are end poverty and hunger; universal education; gender equality; child health; maternal health; combat HIV/AIDS; environmental sustainability; and, global partnership. For more information about the MDG, visit: <http://www.un.org/millenniumgoals/>



(UNESCO, 2010c) continue to call for the development of learning for sustainability policies and strategies and the infusion of sustainability into all education sectors including higher education. As Mulà and Tilbury (2009) and Pigozzi (2010) note, the DESD seeks too ambitious changes for a period of ten years. Currently, as also restated by Wals (2009), there seems to be anecdotal evidence of how the UN DESD is making a real difference in the area of learning for sustainability. The second Global Monitoring and Evaluation Report expected in 2012 has raised many expectations as it will try to assess sustainability learning processes. It will try to identify what pedagogical approaches, teaching and learning styles, and learning experiences are contributing to sustainability (Tilbury, 2011b). However, not until the last Global Report is released, will we know whether the Decade has had a real impact on improving people's and communities' quality of lives (Mulà & Tilbury, 2009).

In Europe, there has been a great deal of activity to support learning for sustainability. In 2003, stakeholders and policy-makers attending the Fifth Ministerial Environment for Europe Conference in Kiev reinforced the need for a United Nations Economic Commission for Europe (UNECE) initiative on learning for sustainability. At the conference, UNECE ministers agreed to develop a regional *Strategy of Education for Sustainable Development* (UNECE, 2005a). Two years after in Vilnius, ministers from the UNECE region adopted the Strategy and made a formal commitment to meet the UN DESD goals, monitor the UNECE Strategy (see UNECE, 2005b), compile best practices of learning for sustainability (see UNESCO, 2007a) and promote learning for sustainability competences (see UNECE, 2011).

Enhancing the international and regional profile of learning for sustainability, for the first time in 2010, the Council of the EU also committed to support learning for sustainability processes and invited all member states to contribute to this international commitment (Council of the European Union, 2010). The purpose is to ensure that policy, regulatory and institutional frameworks of all EU countries support learning for sustainability as well as equip educators to gain the knowledge and competences required to embed sustainability within their professional practice.

- *Key components and processes of learning for sustainability*

Learning for sustainability entails a new vision of education and learning (Sterling, 2001; UNESCO, 2002) and calls for a reorientation of educational frames and systems (McKeown, 2002b; Sleurs, 2008; Sterling, 2004; UNESCO, 2005). Some commentators note that learning for sustainability is many times conceived as the process by which learners gain knowledge, develop values and understand theories related to sustainability, but it can also mean learning for change (Fien, 1993; McKeown & Hopkins, 2003; Reed Johnson, 2009; Sterling, 2004; Tilbury, 2011b; Vare & Scott, 2007), challenging people’s mindsets and actions (Foster, 2001; PCE, 2004; Tilbury & Wortman, 2004) and reflecting on society’s worldviews and attitudes (López Ospina, 2000; Tilbury & Mulà, 2009). These critical processes associated with learning for sustainability assist learners in not only identifying dominant and unsustainable social practices, ideologies, models of thinking, education and communication, but also engaging in change towards sustainability (Barasa Atiti, 2008; Fernández Arribas, 2011; PCE, 2004; Podger, 2009).

Tilbury and Wortman (2004) identified five core components associated with learning for sustainability which have also been recognised by the UN DESD, UNECE Expert Group on Competences<sup>58</sup> (UNECE, 2011) and in the sustainability literature (see, for example, O’Sullivan, 2002; Porrit, 2005; Shallcross, 2006; Shallcross & Wals, 2006). These components are futures thinking; critical thinking and reflection; participation in decision-making processes; partnerships; and, systemic thinking. Table 2.3, sourced and adapted from a UNESCO project in which I participated in 2009 (Tilbury & Mulà, 2009), describes these components in more detail.

**Table 2.3      Core components of learning for sustainability**

<b>Core components</b>	<b>Learning processes involved</b>
Futures thinking	Futures thinking engages people in imagining preferred visions for the future. It involves them in meaningful understanding and interpretation of

<sup>58</sup> The Expert Group has been mandated to prepare (i) general recommendations for policy-makers; and, (ii) a range of core competences in ESD for educators.

	sustainability and exploration of assumptions. This process of envisioning futures leads people to take ownership and responsibility for a sustainable future.
Critical thinking and reflection	Critical thinking enables people to explore new ways of thinking and acting, make informed decisions, and create alternatives to present choices. It involves reflecting on how people interrelate with each other, understanding cultural differences and creating alternative ways to live together.
Participation in decision-making	The engagement of people is needed to build together a sustainable future. Engaging diverse stakeholders and communities is essentially important, as they value and include differing knowledge systems and perspectives. The process of participation is also important to create ownership and empowerment.
Partnerships	Partnerships are a motivating force towards change. They empower people and groups to take action, take part in decision-making processes and build capacity in sustainability. Intercultural partnerships are often highlighted as critical to learning for sustainability.
Systemic thinking	Thinking systemically is essential to sustainability as piecemeal approaches have proved not to work - resolving one issue while creating other problems. Sustainability requires approaches which go beyond problem-solving and/or cause-effect.

Source: Adapted from Tilbury and Mulà (2009)

A recent literature review commissioned by UNESCO as part of phase II of the DESD Monitoring and Evaluation sought to clarify the sort of learning processes which are more aligned with learning for sustainability as well as the contributions of learning for sustainability practices to sustainability (see Tilbury, 2011b). With regards to the first question, table 2.4 illustrates the key processes underlying learning for sustainability practices.

**Table 2.4 Key processes of learning for sustainability**

<b>Processes underpinning learning for sustainability practices</b>	<b>Description</b>
Processes of collaboration and dialogue	Collaboration and dialogue are key processes to enhance the sustainability engagement and strengthen current debates around sustainability issues. In some cases, collaboration and dialogue may take form of multi-stakeholder and intercultural dialogue or can be extended into social learning experiences in the area of

	sustainability.
Processes which involve the 'whole system'	Engaging with the 'whole system' consists of developing synergies and setting up actions considering all components of the systems in which learning takes place and through which it operates.
Processes which innovate curriculum as well as teaching and learning experiences	Learning for sustainability provides an opportunity to enhance innovation in curricula and teaching and learning experiences in all education sectors. It provides a platform where learners and educators can challenge their practices through processes which involve active, collaborative, creative and inclusive learning. It challenges passive approaches to learning and promotes dialogue and negotiation. More importantly, it focuses on changing current structures and influence institutional changes.
Processes of active and participatory learning	Active and participatory approaches to learning for sustainability have been widely accepted by key scholars and literature of the field. They all recognise that this learning approach encourages learners to (i) ask critical and reflective questions; (ii) clarify values; (iii) envision more positive futures; (iv) think systematically; (v) respond through applied learning; and, (vi) explore the dialectic between tradition and innovation.

Source: constructed from Tilbury (2011b)

This vision of education and learning is usually accompanied by pedagogical approaches which are innovative, dynamic, inclusive, explorative and creative (Sterling, 2004; Tilbury & Mulà, 2009; Wals, 2010a). Cotton and Winter (2010) in a recent study identified commonly adopted learning for sustainability pedagogies and methods in higher education. These are role-plays and simulations, group discussions, stimulus activities, debates, critical incidents, case studies, reflexive accounts, critical reading and writing, problem-based learning, fieldwork and outdoor learning, and modelling good practice.

Many authors have noted that the current educational processes and practices are not always aligned to this transformative vision of learning for sustainability outlined below (Blaze Corcoran & Wals, 2004; Fien et al., 2009; Lotz-Sisitka, 2006; Sterling, 2001; Wals & Jickling, 2002). The reality is that practitioners and researchers in this area have struggled to critically reflect and document how learning processes and methodologies

used are currently contributing to sustainability and having a real impact on the learner's experience.

In the following section, I indicate current developments and step changes in the area of learning for sustainability in the context of higher education. As in other sections of this chapter, some specific examples of international progress or innovation are given, with particular attention to UK efforts.

### **2.5.2 Step changes**

Over recent years, there has been a growing literature base documenting initiatives which seek to change or reorient the learning culture in higher education towards sustainability (Clarke & Button, 2011; Junyent i Pubill & Geli de Ciurana, 2008; Ryan, 2011). Ryan (2011) notes that change in this area has been facilitated with large variability - depending on the level of institutional engagement in the sustainability agenda or strategies used to enhance organisational learning.

Progress in the area of learning for sustainability is reflected in the growing number of universities which are working towards:

- *Embedding sustainability in strategic curricular frameworks*

The most ambitious and committed universities have formally supported curriculum change priorities through embedding sustainability into their teaching and learning frameworks and/or developing learning for sustainability strategies (Gudz, 2004; Tilbury & Ryan, in print). For example, the University of Gloucestershire, Bradford and Plymouth in the UK have worked in both strategic aspects, outlining their formal commitment to providing sustainability learning experiences to their staff and students through a wide range of activities.

- *Embedding sustainability in university's specific courses*

Many institutions across the world engaged in sustainability have developed sustainability specialist courses and qualifications as well as have integrated

sustainability issues in current courses (see, for example, work documented by Amran et al., 2010; Bacon et al., 2011; Jones et al., 2010b; Plant, 2004; Roberts & Roberts, 2007; van Dam-Mieras et al., 2008). For example, in 2005, the University of Bristol developed an innovative interdisciplinary module on sustainability in which all students from the institution regardless of their specialism, can enroll (see Hoare et al., 2008). This module received in 2007 the Times Higher Award.

It is believed, however, that universities should embed sustainability in all academic and professional subjects and courses, as all expertise areas can contribute to learning for sustainability from their particular angles and perspectives (Junyent i Pubill & Geli de Ciurana, 2008; Ryan, 2011). The reality is that no higher education institution has managed to achieve this core process. The literature especially focuses on single subject case studies in which sustainability has been integrated (Sherren, 2008).

- *Providing student informal learning opportunities*

Almost all universities engaged in sustainability tend to offer informal opportunities for staff and students to engage in the sustainability agenda. Many of these initiatives are based on campus and, in a few cases, connected with sustainability modelling activities undertaken by the institutions (Ryan, 2011). For some authors, connecting curriculum messages to campus activities such as environmental operations, procurement or outreach, provides students and staff with the opportunity to understand, gain skills, values and attitudes, as well as engage more meaningfully in sustainability issues (Lozano García et al., 2009). For example, the University of Bradford has conceptualised this idea in what they call the students' informal curriculum. Specialist staff provide students with opportunities to engage in sustainability initiatives, events and activities in order to support their learning in this area.

- *Promoting sustainability in professional development*

A number of universities are offering professional development programmes for academic, support and administrative staff in learning for sustainability (Chao-Jung et al., 2011; Holdsworth et al., 2006; Holdsworth et al., 2008; Tilbury et al., 2004). In a current report commissioned by the HEA, Ryan (2011) states that from 20 universities

reviewed worldwide which have introduced sustainability strategic shifts in their teaching and learning, 75% provide professional development sessions in the area of sustainability for academics. For example, at the University of Gloucestershire professional development takes shape with the organisation of a wide variety of expert seminars and forums every academic year; action research projects; resource development for specific areas; and, introduction to sustainability in staff induction sessions.

- *Offering sustainability work-placements*

Some universities are extending students' sustainability learning experiences through engaging them in real work-based learning. It is believed that through learning in practical and real-world settings, students can gain professional capabilities and competences in the area of sustainability. For example, the University of Glasgow offers final year students enrolled in the BSc Environmental Stewardship Programme to choose either a 60 credit dissertation or a 9 week placement in local businesses working on environmental issues. At the UK national level, an interesting initiative in this area is the College and University Sustainability Placements Scheme<sup>59</sup> coordinated by the StudentForce<sup>60</sup> in partnership with the EAUC. The scheme provides to graduates with short term placements in organisations and businesses which are dealing with sustainability issues at all levels. Currently, there are 4,000 graduates registered to the scheme, what reflects the growing interest of students in being involved in work-based learning in the area of sustainability.

- *Assessing the contribution to learning for sustainability*

The importance of monitoring, evaluation and benchmarking is becoming more prominent in higher education institutions involved in learning for sustainability (Glover et al., 2011; Moody & Hartel, 2007; Roorda, 2007; Shriberg, 2004; UtC, 2010). Several initiatives worldwide and in the UK have currently emerged, which enable institutions to

---

<sup>59</sup> For more information about this scheme, please visit: <http://www.eauc.org.uk/cusp>

<sup>60</sup> StudentForce is a UK national charity which focuses on students and youth which are seeking to improve sustainability opportunities at all levels. See: <http://www.studentforce.org.uk/>

assess to which extent they are dealing with sustainability learning and benchmark themselves against other institutions. Examples include the Universities that Count (UtC)<sup>61</sup> (UK), STAUNCH (Wales – UK), Sustainability Tracking, Assessment and Rating System (STARS) (United States of America and Canada), Alternative University Appraisal (AUA) for ESD (Asia-Pacific) and Sistema de Indicadores de Evaluación de la Sostenibilidad Universitaria Universities (Spain). These frameworks are further explained in chapter 4.

- *Ensuring quality of academic provision in the area of sustainability*

A current strategic area in higher education is the connection of learning for sustainability and the field of quality assurance and quality enhancement. In the UK, this emerging area of work is led by the Quality Assurance Agency for Higher Education (QAA) which has recently published a report which describes the review process for institutional management of academic quality and standards which will take place from 2011-12 onwards. For the first time in the UK, this document states that “the new process is also characterised by an intention to: [...] pay attention to environmental and sustainability considerations” (QAA, 2011, p. 3).

At the practice level, in 2010, HEFCE funded the Leading Curriculum Change for Sustainability: Strategic Approaches to Quality Enhancement Project,<sup>62</sup> coordinated by the University of Gloucestershire and in partnership with the Universities of Aston, Oxford Brookes, Brighton and Exeter. The project focuses in the interface between learning for sustainability and quality enhancement. It seeks to guide universities and the higher education sector in general to innovate in the context of learning for sustainability and sustainability leadership in higher education.

---

<sup>61</sup> In 2011, UtC changed its name to Learning in Future Environments (LiFE).

<sup>62</sup> For more information about this project, visit:

<http://edit-insight-dev.glos.ac.uk/sustainability/Education/hefcelgmquality/Pages/default.aspx>



- *Engaging in other learning initiatives*

Many other strategies have helped some institutions to facilitate and implement change actions in the area of learning for sustainability and curriculum design. Ryan (2011) lists the following institutional strategic actions: an emphasis to the strategic focus on the research-teaching nexus; development of institution-wide graduate attributes or learning outcomes; establishment of institutes or teams to lead and overview change; appointment of curriculum/academic lead roles; use of pedagogic research and development projects; fund or reward internal academic staff; or, second 'champions' to encourage curriculum change.

### **2.5.3 Enhancing the sustainability learning experience in higher education**

The wide variety of approaches and projects in place to integrate major shifts in the curriculum, policy and practice in the area of learning for sustainability does not imply that universities are achieving lasting impacts in this area. In many cases, higher education institutions have engaged in this agenda, developing pilot studies or small case study research, rather than embracing a range of strategic actions which can ensure change towards learning for sustainability within the institution. The projects currently developed seem to be occurring on the fringes of higher education institutions, rather than systemically integrated as part of an established programme to implement change in this area (Sharp, 2002). There is a need to scale up efforts so that sustainability learning opportunities are mainstreamed into the learning culture of a university (Sterling, 2004; Tilbury & Ryan, in print). For example, although authors such as Lozano-García et al. (2009) point at the need to connect campus initiatives with learning opportunities in the area of sustainability, only a few institutions have managed to link both aspects in integrative ways. Also, as stated by Lipscombe (2009), missing opportunities seem to exist in linking curriculum development and messages in the area of sustainability with the social learning experience in higher education. The reality is that learning for sustainability is too frequently interpreted as an activity which takes place within the formal curriculum or learning structures of a higher education institution (UNESCO, 2005). This is no surprise as informal and social learning aspects of sustainability have usually been overlooked in the authoritative documentation and

higher education declarations. Wals (2009) also confirms that national educational strategies and policies in the area of education for sustainability are yet to address this important sustainability process.

My thesis seeks to close some of the gaps existing in the literature in the area of sustainability in higher education. It aims at providing a critical understanding of the role of social learning in enabling deep changes in the institutional and learning culture of a higher education organisation. My understanding of social learning, as explained in the following chapter (see chapter 3), is broader than promoting informal learning opportunities and extra-curricular activities in the area of sustainability (see, for example, Lipscombe et al., 2008). It embraces multi-stakeholder and individual learning perspectives in the area of sustainability, taking into account how these processes may influence institutional structures and culture and vice-versa. It looks not only at where these opportunities occur, but at which processes are planned or emerge and how individuals and groups are engaged with this agenda.

## **2.6 SUMMARY**

This chapter has highlighted sustainability initiatives and milestones in higher education in order to understand the context where my research has been developed and identify the current challenges to mainstream sustainability in this sector. I have reviewed international and national progress in the areas of leadership, sustainability modelling, outreach and partnerships, and education and learning.

The following key points summarise the sustainability challenge in higher education and serve to contextualise this study:

- 1) It has been widely recognised that sustainability is one of the main challenges which our societies are currently facing (UUK, 2009; van Weenen, 2000). The chapter has explained why the higher education sector is in a critical position to address this global concern (Beringer & Adomßent, 2008; Clugston & Calder, 1999; Cortese, 2003; Tilbury, 2011c).

- 2) If this sector is to critically respond to the social expectations, pressures from government bodies and international mandates, far more will be required than just endorsing declarations and charters or conduct small pilot and case study research in this area (Tilbury & Ryan, in print).
- 3) Universities are currently being challenged to re-orient themselves towards sustainability, transforming the institutional architecture (Lotz-Sisitka, 2004) and changing institutional structures and thinking (Thomas, 2004). As Sterling (2004, 2011a) suggests, higher education institutions need to stop seeing themselves as teaching and research organisations, and engage in a process of becoming learning institutions towards sustainability.
- 4) Reviewing the learning provision and practice in the area of sustainability is key in order to ensure that the whole institutional community is involved in a process of challenging institutional curriculum, operations, research and outreach activities. It requires involving senior managers, staff and students in learning how to challenge institutional structures and integrate innovation in their current practices.
- 5) Evidence that universities have started to engage in the learning for sustainability agenda is clear from the wide range of experiences which this chapter has documented. However, these activities seem to happen on the fringes of organisations, rather than embedded in whole-institutional change programmes in the area of sustainability.
- 6) Learning for sustainability has been primarily tackled in the formal curriculum and structures of higher education. Few spaces have been created for enhancing the social learning experience in higher education. The reality is that the potential of social learning for sustainability in bringing about change towards sustainability within this sector remains to be explored.
- 7) My research seeks to understand more deeply how social learning for sustainability can bring about change in higher education institutions. The study proposes indicators which can assist institutions to promote this learning.

## **CHAPTER 3 SOCIAL LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION**

### **3.1 INTRODUCTION**

Learning opportunities for sustainability in higher education are often thought to occur only in formal settings - facilitated by educators and lecturers in a classroom or through coursework. This research seeks to explore the learning that occurs within social and informal contexts in a higher education institution. I refer to this learning as 'social learning' and acknowledge its role in promoting sustainability developments and improving performance in a higher education institution. The review of international literature and relevant studies was unable to locate research which captured or articulated an understanding of the contribution of social learning to sustainability within higher education. Through adopting a socially critical approach, I seek to explore this under-researched area and propose indicators to improve it within the higher education sector.

This chapter gives an overview of literature in the area of social learning and attempts to frame the concept in the context of sustainability in higher education. Firstly, there is an outline of social theories of learning which provide the foundation for understanding social learning. I then explain the concept in the context of sustainability and outline its key strands and components. Finally, the potential role of universities in supporting social learning processes to advance the sustainability agenda is reviewed.

Due to the shortage of examples of social learning opportunities in higher education, I clarify the theories presented with initiatives implemented in other different areas, such as community projects and organisational management studies. Later in this thesis (see chapter 8), examples of social learning for sustainability taking place in higher education are provided, which I captured throughout the data collection process.

## **3.2 THEORETICAL FOUNDATIONS OF SOCIAL LEARNING**

In recent times, social learning has attracted significant interest from academics, policy-makers and practitioners from a diversity of backgrounds and research traditions. The variety of fields and practices in which it has been applied has led to considerable conceptual confusions and academic controversies (Blackmore, 2010; Glasser, 2007; Keen et al., 2005; Wals, 2007). This chapter reviews these tensions as well as the common frameworks in order to frame social learning for sustainability in higher education.

Parson and Clark (1995) indicate that social learning has been defined by academic communities which make use of different research language and methods; distinctive theoretical foundations; a wide variety of definitions of learning; and, meanings for 'social' processes. Social learning has been the basis of studies on individuals, groups, organisations, communities or entire societies.<sup>63</sup>

For some authors, social learning entails looking at how socio-cultural contexts influence, condition or mediate the learning from individuals. For others, it consists of exploring the collaborative learning taking place in groups or aggregates of individuals. Although greatly contested in its particular definition, the different approaches used to describe social learning processes found in the literature are bonded together in a social theory of learning. This section aims to outline the work of key authors who have developed social theories of learning which have informed the current approaches of social learning. The purpose of this section is also to highlight those theories which are critical to frame social learning for sustainability in the context of my research.

### **3.2.1 Precursors of social learning**

Social learning is not a new concept; its roots can be traced back to the work of early philosophers, psychologists and biologists (Blackmore, 2010). Ideas about social learning, related to individual learning in socio-cultural contexts and group learning environments, were associated with, and highly influenced by behaviourist and cognitive

---

<sup>63</sup> The learning taking place in entire societies is usually referred as 'societal learning' (see Wadell, 2005).

theories of learning. Albert Bandura is a key scholar in this area who developed a social learning theory underpinned by a linear sequence of observation, imitation and modeling. Bandura's (1977) theory assumes that people: (i) learn from observing others' behaviour; (ii) form an idea of how new behaviours are developed; and finally, (iii) use this information to guide their future actions. With this theory, Bandura asserted that the environment affects people's behaviour, but also added that behavioural processes can transform the broader socio-cultural context. A common example of Bandura's social learning is the television advertisement culture. Commercials propose that using certain products will lead people to become more popular or admired by others. People may wish to model the behaviour reproduced in the commercial and buy the product advertised.

Over time, the linear sequence associated with Bandura's theory was challenged recognising that learning relies on experience and practice, as well as on the continuous interactions which people establish with others (Blackmore, 2010). This approach has deeply influenced the ways social learning is now conceived in the area of sustainability. Several constructivist and critical theorists such as Vygotsky, Freire, Habermas, Kolb, Lave and Wenger, and Argyris and Schön can assist in understanding the vital role of social interaction in sustainability learning processes.

Vygotsky's (1978) theory is critical to social learning as it focuses on the social interactions between people and the socio-cultural context in which these exchanges take place. Considered as one of the founders of social constructivism,<sup>64</sup> Vygotsky developed the concept of the 'zone of proximal development' which emphasises that development is both influenced by what the learner can do independently and the assistance of an educator or a more competent peer. Therefore, using Vygotsky's theory into practice implies designing learning activities which take into account what the learners can achieve on their own and with interaction with more experienced ones. This is relevant to social learning as it stresses that learning can be enhanced when interaction with other colleagues or facilitators takes place.

---

<sup>64</sup> Social constructivism argues that learning is a social, collaborative and situated activity in which learners are responsible for constructing their own knowledge (Vygotsky, 1986).

Arguing along the same constructivist foundations, Kolb's (1984) experiential learning theory is critical to social learning as it emphasises the key role of learners' experience in the learning process. Drawing upon the work of authors such as Lewin, Dewey and Piaget, Kolb (p. 38) claims that "learning is the process whereby knowledge is created through the transformation of experience." Kolb describes the five different stages which an individual must go through in a learning process: experiencing, reflecting, conceptualising, deciding and acting. This learning cycle has been used in several sustainability research projects. Bell and Morse (2005), for instance, outline the potential of this theory to enhance the learning processes within sustainability indicator projects. These authors used Kolb's learning cycle to address the tensions which usually exist between the 'linearity' of indicator projects and the 'circularity' which sustainability calls for. The application of the cycle, as explained by these researchers, improved the rationalisation of those implementing sustainability indicator projects. It also encouraged learning and understanding by all stakeholders involved in the project.

Kolb (1984) has been criticised for not considering the conditions under which learning may be stimulated and ignoring that learning is influenced by social settings (Loeber et al., 2007). However, his theory is valuable to inform social learning processes and sustainability as it focuses on the relationships between cognition and action.

Lave's (1988) work complements and advances Kolb's theory as it reasserts that learning is situated - in other words, that it takes place through activity or practice, but also through context and culture. Lave's theory is useful to conceptualise social learning as it stresses the relationships between experience and the socio-cultural context in which learning takes place. Together with Wenger (1990), she explains that through social interaction, participation and collaboration, learners are involved in communities of practice. These authors conceive social learning not only as an individual process, but as an activity taking place within groups and communities. According to Wenger et al. (2002, p. 98), communities of practice are "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis."

The community of practice approach is currently being widely used to analyse and facilitate knowledge in organisational studies and business management (Roberts, 2006; Wenger, 1998; Wenger et al., 2002) as well as sustainability learning (Barasa Atiti, 2008; Hart, 2007b; Lotz-Sisitka et al., 2010). For example, Wenger et al.'s (2002) work with the business sector focuses on strengthening and facilitating communities of practices to enhance the organisations' and staff learning capabilities. These scholars state that business organisations can create environments and atmospheres for cultivating communities of practice. Organisations can value the learning of these communities, encourage participation and collaboration, or provide time and resources.

In the area of sustainability, Regional Centres of Expertise (RCE) have involved different international, regional and local stakeholders in communities of practice in order to implement sustainability actions (Glasser, 2010). For instance, the RCE Grand Rapids in the United States has formed a community of practice where participants promote, raise awareness and implement projects which improve sustainability lifestyles in the region.

Critical theorists such as Freire (1970) have raised the issue that learning is not only situated and constructed, but it is also the process by which oppressed people find the means for social emancipation. Freire calls for greater attention to critical learning pedagogies which enhance dialogue and informal interaction, as well as the creative and critical capacities of learners. He promotes a critical pedagogy which is implicitly political and facilitates processes of human emancipation. His approach is useful to frame social learning processes in the area of sustainability which seek to overcome power relationships that limit the achievement of sustainability collective aspirations.

Arguing in the same critical discourse, Habermas's (1984, 1987) critical theory on communicative action focuses on communicative interactions which can be used to establish relationships between sustainability social learning processes, and structural and cultural contexts (Barasa Atiti, 2008). As it is further explained in chapter 5, central to Habermasian theory is the argument that actors, through language and social interaction, engage in a process of mutual understanding to set up goals for social action. Therefore, communicative action offers alternative and emancipatory learning processes where central issues can be collaboratively identified and action can be taken



through consensus. A common critique to Habermas's theory is that he has given too much emphasis to universal consensus. Postmodern authors such as Lyotard (1984) advocate that collective consensus marginalises the importance of local narratives of day-to-day life, based on consensus and conflict. The point raised by Lyotard is important as it seems to be embraced by many social learning scholars in the area of sustainability. For example, Wals and Corcoran (2006) argue that the achievement of collective sustainability goals depends on the space provided for conflicts, oppositions and contradictions. I also consider that both consensus and conflict processes are integral components of sustainability social learning processes (see section 3.3.3).

In the sustainability field, Barasa Atiti's (2008) research is a good example of how Habermasian theory and Lave and Wenger's communities of practice can be put into practice. In his thesis, he seeks to explore organisational learning and sustainability in a Kenyan context. He involved a group of 23 staff of the National Museums of Kenya (NMK) in identifying and acting on sustainability. He states that the analysis of agency, structure and cultural interaction through educational interventions in a community of practice enabled him to deepen understanding of organisational learning and sustainability in the NMK.

Finally, the recent work of Schön (1983) is important to this research and to conceptualise social learning in the area of sustainability as it integrates the key role of values and beliefs which sustainability learning processes call for, and makes an emphasis on organisational learning processes. His theories on the 'reflective practitioner' and 'learning society' emphasise the ways actors engage in a process of 'reflection-in-action.' Learning takes place when practitioners and professionals review their mental maps in light of new unexpected and surprising events. Through rethinking and challenging their own practice, actors change their pre-established theories, values and beliefs. Together with Argyris (1978, 1996), he tries to understand organisational learning through examining how professional practice is informed by theories of action. These key authors, based on Bateson's theory of learning (1972),<sup>65</sup> distinguish between single and double-loop learning. The first reflects on the ways individuals, groups and

---

<sup>65</sup> Bateson (1972) distinguished between first, second and third order learning, recognising that there are different stages of learning and that people are engaged at different learning levels.

organisations modify actions and practice, improving their capacities for problem-solving, but not altering their values. The second entails a transformational learning process in which actors and institutions question their own mental models including their underlying assumptions. These academics argue that second-loop learning is about reflecting on and learning from the process of single-loop learning. Several authors maintain that genuine social learning processes in the area of sustainability entail second-loop learning processes (Glasser, 2007; Sterling, 2007; Wals et al., 2009). Central to their argument is that sustainability is a transformational learning process which entails challenging mindsets, worldviews and actions (Sterling, 2001; Tilbury & Wortman, 2004; Wals & Blaze Corcoran, 2006).

### 3.2.2 Identifying key ideas and contributions to social learning

Building on the literature and social learning theories presented in the sub-section above (see 3.2.1), the main ideas of the key thinkers presented and those contributions to social learning are highlighted in the table below, and which I have tried to develop further throughout my research (see table 3.1). Whereas the contributions of these authors are clearly important for conceptualising current approaches to social learning, my research is more influenced by Lave and Wenger, Freire, Habermas and Argyris and Schön's thinking. Their theories are useful to frame social learning within a reflective and critical approach to learning and research, and have made it possible to look at both individual learning and learning within groups in the higher education context. These authors' ideas are shaded in grey in the table below (see table 3.1)

**Table 3.1 Key ideas and contributions of social theories of learning**

Social theories of learning	Key ideas	Contributions to social learning
Social Learning Theory (Bandura, 1977)	- Individual learning takes place through observation, imitation and modeling.	- Social learning involves exploring how the environment influences individual learning and how individuals may transform the socio-cultural context.  - Social learning can be explained by the interaction between cognitive, behavioural and

		environmental influences.
Zone of Proximal Development (Vygotsky, 1978, 1986)	<ul style="list-style-type: none"> <li>- Development is influenced by what the learner can do independently and with assistance of an educator or a more experienced peer.</li> <li>- Vygotsky challenges the traditional forms of teaching and learning based on transmissionist approaches.</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitation of social learning processes and interaction with more competent peers can enhance the learning process.</li> <li>- Social learning is about challenging power relationships which are likely to exist between educators and learners. Educators are given the role of learning facilitators.</li> </ul>
Experiential Learning (Kolb, 1984)	<ul style="list-style-type: none"> <li>- Through the transformation of experience new knowledge is created.</li> <li>- Individual learning takes place through a process of experience, reflecting, conceptualising, deciding and acting.</li> </ul>	<ul style="list-style-type: none"> <li>- Social learning is informed by theories which focus on the relationships between cognition and action.</li> </ul>
Situated Learning (Lave, 1988) and Communities of Practice (Lave & Wenger, 1990; Wenger, 1998)	<ul style="list-style-type: none"> <li>- Learning takes place through experience, but also through context and culture.</li> <li>- Learning occurs through social interaction, collaboration, participation and practice.</li> </ul>	<ul style="list-style-type: none"> <li>- Social learning is an activity which may take place within groups and communities where participants share common interests and interact on an ongoing basis.</li> </ul>
Pedagogy of the Oppressed (Freire, 1970)	<ul style="list-style-type: none"> <li>- Learning is situated, constructed and leads to social emancipation.</li> <li>- Learning takes place through dialogue and informal interaction.</li> <li>- It builds creative and critical capabilities of learners which assist them in finding the means for social emancipation.</li> </ul>	<ul style="list-style-type: none"> <li>- Social learning is interested in challenging power relationships which restrict the achievement of collective aspirations.</li> <li>- Through social learning processes, participants can gain critical competences for achieving social emancipation and challenging current structures.</li> </ul>
Communicative Action (Habermas, 1984, 1987)	<ul style="list-style-type: none"> <li>- Learning takes place through language and social interaction.</li> <li>- Consensus building is important for concerted</li> </ul>	<ul style="list-style-type: none"> <li>- Communicative interactions can be used to analyse the relationships between social learning processes and structural and cultural contexts.</li> <li>- Through social learning processes,</li> </ul>

	action.	actors can set up goals and actions to improve sustainability developments and performance.
The Reflective Practitioner (Schön, 1983)	<ul style="list-style-type: none"> <li>- Actors engage in a process of reflecting in their own actions.</li> <li>- Learning takes place when learners review their mental maps in light of new and unexpected events.</li> </ul>	<ul style="list-style-type: none"> <li>- Reflective practice is an important component of social learning processes.</li> <li>- The role of values and beliefs must be acknowledged in social learning processes.</li> </ul>
Organisational Learning (Argyris & Schön, 1978, 1996)	<ul style="list-style-type: none"> <li>- Single-loop learning involves modifying actions and practice without challenging underlying values.</li> <li>- Double-loop learning involves a transformation process where mental maps are reviewed and underlying assumptions are challenged.</li> </ul>	<ul style="list-style-type: none"> <li>- Social learning involves challenging practice (single-loop learning), but also the questioning of values and underlying assumptions (second-loop learning).</li> </ul>

The statements selected in table 3.1 are complementary and help to understand how I define or approach social learning for sustainability in higher education. I define social learning as a process which actively engages participants in social interactions and dialogues. Social learning enables people to review their own assumptions and take action for sustainability. It is a reflective process which helps participants to build their ability and confidence to engage in sustainability in order to challenge power structures which limit social action in this area. Please refer to section 3.4.1, to better understand the approach taken to define social learning for sustainability.

Having explained the outstanding work of key thinkers and their social theories of learning, as well as identifying those main ideas which I will use throughout my research, the next section analyses the types and key strands of social learning in the area of sustainability.

### 3.3 SOCIAL LEARNING AND SUSTAINABILITY

My research embraces those authors and organisations which have attempted to define sustainability as a ‘learning’ process, rather than as an ‘educational’ activity. Although both approaches seem to be similar or even identical, education has many times been

associated with the activities taking place in a classroom and facilitated by educators (Falk & Dierking, 2002; Tilbury, 2011b). Learning is much more than the accumulation of knowledge, it refers to the unique and contextual personal experience developed from both internal and external experience (Falk & Dierking, 2002). It can take place in any environment or context and at any time in life (PCE, 2004; UNESCO, 2005). Learning is a process that is driven by and actively engages and empowers learners of all ages in issues important to them and/or others (Wals, 2010b). Learning is a crucial component to reorient public and private institutions towards sustainability and implement deep changes (see, for example, Doppelt, 2008, 2010).

Sustainability can be described as a social learning process as it involves people from different backgrounds and at different stages in life taking part in a collaborative learning process where they can create their visions, set common actions and review changes for a more sustainable future (Tilbury, 2007a). In this section, I seek to extend the academic debate regarding sustainability through exploring this concept as a social learning process. I investigate different types and key strands of social learning processes in the area of sustainability.

### **3.3.1 Types of social learning for sustainability**

In this sub-section, I identify different types of social learning processes for sustainability which can be found in the literature. I explore the distinction between (i) passive and social learning; and, (ii) facilitated and unfacilitated social learning. In both cases, I highlight what ideas have been useful to undertaking my research.

#### **(i) Passive and active social learning**

Glasser (2007) remarks that social learning by individuals, multi-stakeholder or group dialogue takes place when there is some kind of input drawn from others. He identifies passive and active social learning processes. Passive social learning relies on the knowledge and learning of others, and it does not require any type of active communicative or interactive process. Examples would be the learning taking place or resulting from reading a book or attending a lecture which does not involve active participation. On the other hand, active social learning is highly associated with the

sustainability learning paradigm. It is about the 'conscious interaction' and dialogue established between at least two people. Glasser identifies three types of active social learning: (i) hierarchical; (ii) non-hierarchical; and, (iii) co-learning. Hierarchical social learning is based on inflexible and power-laden relationships (eg., certain types of relationships established between lecturers and learners). Non-hierarchical social learning is a two-way learning process. It focuses on the communicative interactions established by participants who are 'experts' in their own right. Finally, co-learning is not only non-hierarchical, but also enables learners to collectively explore change for sustainability at deeper levels. Co-learning involves trust, full collaboration, participation and shared exploration.

I found Glasser's (2007) distinction very useful, particularly when looking at various individual and group learning processes and analysing different power relationships likely to exist in social learning processes. In this research, I have only taken into account active social learning processes as they are aligned to the sustainability worldview upon which my research is based.

## **(ii) Social learning as a facilitated and unfacilitated process**

Sterling (2007, p. 73) remarks that the critical exploration of social learning processes for sustainability implies the analysis of (i) 'intentioned learning' or 'learning by design'; and, (ii) 'reactive learning' or 'learning by default.' As he notes, the first implies a prior disposition or intention for learning; and, the second occurs when the learner's consciousness is impressed or shocked by different events. Whereas authors such as Wenger (1998) argue that learning itself cannot be designed as it simply occurs whether designed or not, other scholars such as Wals et al. (2009) emphasise the importance of designing and planning the learning process from social activities.

Here, I further elaborate these approaches to social learning. Firstly, I describe the concept as a facilitated process of dialogue and collaboration. Then, I explore social learning as an unfacilitated dialogue process. The first is also sometimes called multi-stakeholder social learning. The second primarily consists of spontaneous and informal dialogue processes. In my research, I analyse both types of approaches (see chapter 8, section 8.3.1).

- *Facilitated social learning*

Facilitated social learning processes in sustainability are usually associated with multi-stakeholder activities with a focus on decision-making and problem-solving (Keen et al., 2005; Krasny & Lee, 2002; Wals et al., 2009). They consist of forming a community of practitioners or a core group of relevant actors to the topic which will be explored and who represent the different existing interests and perspectives. The learning process, mediated by a facilitator, consists of engaging participants in (i) learning from and with each other; (ii) negotiating meanings and assumptions; (iii) creating trust and cohesion with each other; (iv) developing ownership of the learning processes and their outcomes; and, (v) collective meaning and sense making (Wals et al., 2009). This is a critical process to fully engage people in sustainability issues and provide reflective platforms to critically discuss pathways for the future in a collaborative way.

Wildemeersch (as cited in Wildemeersch, 2007), for example, defines this type of social learning as the:

“learning taking place in groups, communities, networks and social systems that operate in new, unexpected, uncertain and unpredictable circumstances; it is directed at the solution of problem-solving capacity which is available within this group or community.”

Arguing in the same lines, Keen et al. (2005) point out that this form of social learning is the reflection and collective action process of various individuals or groups when they work to improving sustainability management systems. Woodhill (2010) adds that this learning process needs to pay attention to the structures and processes which enable the involvement of heterogeneous groups of people.

Although this process seems to have a considerable overlap with interactive and participatory activities, it specifically focuses on the learning process, the energy, creativity, collaboration and innovation which takes place within a community of practitioners. As Wals et al. (2009) confirm, it does not focus on pre-determined goals and measurable results, but on the complexity and outcomes of the process itself. It puts the emphasis on the sustainability capabilities and competences built by the

participants. For this reason, these authors stress that social learning is not a spontaneous process. Instead, it needs to be consciously designed and facilitated, so participants can challenge their views on sustainability and gain new knowledge and competences in this area.

Facilitated or multi-stakeholder social learning has been primarily promoted in areas such as policy-making, environmental management, community developments and consumption projects (see case studies showcased in Tilbury, 2011b; Wals, 2007). This process has not been fully explored, implemented or reported in the context of higher education.

In the areas of decision-making and environmental management, social learning as a multi-stakeholder dialogue process is very visible in the Netherlands. Van der Waal (2011) explains that the national *Learning for Sustainable Development* programme (Senternovem, 2008) supports social learning as the basis of implementing effectively the strategy at regional levels. In 2009, the Dutch ministries funded the development of 'arrangements' or 'vital coalitions' to improve environmental issues of national concern. The 'arrangements' consist of gathering sustainability stakeholders, civil servants, projects leaders and others to discuss and resolve current regional environmental and sustainability problematic issues. In these 'arrangements,' each member has their own goals and interests in the related sustainability topics which are brought to discussion. The social learning process consists of transcending individual concerns and achieving new, collective learning through a process of knowledge co-creation. Usually, external facilitators specialised in process management are commissioned to organise and chair workshops and meetings with stakeholders, keep the process open and focused, and deal with conflicts that may arise.

A concrete example in the area of community development is the Japanese case study of Kabukuri-numa and the adjacent rice fields in the town of Tajiri (see Mochizuki, 2007). A diverse group of stakeholders including Non Governmental Organisations (NGOs), farmers, local and national government and authorities were brought together to collectively manage the ecological site of Kabukuri Marsh (habitat of a famous wild goose). The conflicts arose among those who sought the protection of wild geese and



rice farmers who viewed the birds as a danger for their crops. The social learning process was implemented to achieve full collaboration, understanding and setting common goals for the future of the Japanese ecological site. Facilitation processes were acknowledged to be important to creating a common vision of the different stakeholders involved in the social process. The Japanese Association for Geese Protection (JAWGP) played a key role in facilitating the activities and disseminating the results worldwide.

- *Unfacilitated dialogue*

It is believed that the establishment of critical dialogues can challenge the ways people see the world and engage with sustainability (Selby, 2007b). Supporting social learning also implies creating the structures for dialogical processes to take place. The main difference between this type of social learning and the multi-stakeholder social learning which I have explained above is that it is a spontaneous process which, many times, is influenced by the socio-cultural context where it takes place (Moon, 2004). Also, it does not require creating a group of different stakeholders to discuss concrete sustainability issues. It can happen between two people with similar perspectives and ideas. I am attracted by the idea of investigating this type of social learning in the context of sustainability in higher education, as I understand its relevance to the communication practices which take place in the university context. Although social learning for sustainability is many times viewed as an 'organised' activity (Wals et al., 2009), analysing dialogical forms of social learning make it possible to also explore spontaneous dialogue processes which occur in a daily basis in a higher education institution (see chapter 8, section 8.3.1).

### **3.3.2 Key strands and components of social learning for sustainability**

Having identified different forms or types of social learning, in this sub-section, an outline of key characteristics of this process follows. If social learning is to contribute to sustainability, key writers in this area state that this process has to be underpinned by the following strands:

- *Strand 1: Participating and engaging in meaningful ways* (Dyball et al., 2007; Tilbury, 2007a; Tydall & Krasny, 2007; Wenger, 2010)

Since learning for sustainability appeared on the international scene, participation and engagement have always been recognised as key components of this process (Huckle & Sterling, 1996; McKeown, 2002a; Tilbury, 1993; Tilbury & Wortman, 2004; UNECE, 2011; UNESCO, 2002, 2005, 2010a). Handley et al. (2006) suggest that participation is the process by which participants, through shared relationships and identities, engage in a process of meaning making. For Wenger (1998), participation is a process of both action and connection as it involves the engagement in a shared sustainability learning process.

Different typologies of participation can be facilitated in sustainability social learning processes. As Dyball et al. (2007) examine, the outcomes of social actors engaging in participatory learning processes can range from coercion to co-learning. Tilbury (2007a) notes that participation can vary from merely consultation processes to involving people in deep analysis and control of the outcomes. The first involves people in participating in consultation processes such as local Agenda 21. External people listen to the different views, but there is no obligation to take these views on board. The second, more engaged with the social learning principles, involves people in undertaking activities and changing systems and practices independently to external organisations.

An example of an initiative which promotes active participation is the Mainstreaming Environment and Sustainability Education in African Universities (MESA). Staff, senior managers and students are engaged in reflecting on their practice and change project contexts. The project seeks genuine participation and engagement processes in order to empower learners in active and meaningful activities where they can take ownership of the learning process, build skills in the area of decision-making and take the responsibility for the outcomes generated. Learners develop leadership skills, essential for implementing change towards sustainability.

I interpret participation and engagement as broad collaborative processes where staff can develop their own understandings of sustainability challenges and set the goals and social actions required to facilitate changes in this area. It involves taking part actively in continuous and dynamic discussions and dialogues regarding sustainability. Through

taking part in this process, it is believed that participants can build trust and share identities (Wenger, 1998). They can challenge their own assumptions and the others' beliefs as well as identify actions to take forward.

- *Strand 2: Building collective identity* (Hart, 2007a; Lave & Wenger, 1990; Wenger, 1998)

It is believed that social learning and action are influenced by identity and subjectivity issues (Hart, 2007a; Wenger, 1998). Identity is concerned about how individuals make sense of themselves and what communities of practice or social learning practices they select to be engaged. Identity is also reflected on how each member of a community of practice brings to the group his/her own individual beliefs, ways of working and interacting, sharing and addressing sustainability issues. Also, the community of practice has also its own common values, ways of working and negotiating, relating and sharing.

In the context of my research, university staff may question, challenge and change their values and beliefs in the area of sustainability when taking part of communities of practitioners. At the same time, the institutional identity may also be shaped by these continuous changing dynamics.

- *Strand 3: Engaging in issues at a critical level* (Barasa Atiti, 2008; Brown et al., 2005; Lotz-Sisitka et al., 2010; Wals et al., 2009; Wildemeersch, 2007)

Social learning for sustainability entails developing participants' agential learning competencies and reflexivity for social change (Barasa Atiti, 2008). The social learning process engages people in a process of challenging values and assumptions, as well as critically exploring the information which influences their actions in the area of sustainability. According to Lotz-Sisitka (2010), activities and social practices are continuously reviewed by agents in collaborative processes of action, reflection and change.

Through enhancing critical reflection and reflexivity, interests and power relations can be identified; social and cultural assumptions which influence people's choices can be also uncovered and questioned. This process enables learners to be more self-conscious

about those structural and contextual issues which both limit or enable their social practices. It makes it possible for social agents to be aware of the structures which need to be transformed to lead change towards sustainability.

- *Strand 4: Creating collective social action and innovation* (Hart, 2007b; Lotz-Sisitka et al., 2010; Sterling, 2007; Wadell, 2005; Wildemeersch, 2007)

Social learning is linked to processes of collective social action and innovation (Wildemeersch, 2007). Social action refers to how learners engage and interpret the social world not only through their everyday experience, but also through the ways they share resources, organise, coordinate and develop activities with a broader group of people. Wenger et al. (2002) describe social practice as the activity taking place when community of members set common frameworks, ideas, information, tools, resources, etc. For example, in the context of a higher education institution, members of staff and students take part in various communities of practice (eg., schools, departments, interest groups, commissions, etc.) where they share common values, social norms, organisational stories and experiences. In these communities of practice, they are involved in dialogue processes where they can contrast ideas, set up common goals, and develop innovative plans for concerted action.

- *Strand 5. Creating opportunities for exploring diversity of perspectives* (Barasa Atiti, 2008; 2007; Ison, 2005, 2010; Keen & Mahanty, 2005; Tilbury, 2007a; Wals & van der Leij, 2007; Wenger, 1998, 2010; Wildemeersch, 2007)

The sustainability literature acknowledges that it is crucial to involve stakeholders with different perspectives in dialogues and discussions in order to negotiate visions, pathways to sustainability and alternative future scenarios (Tilbury & Mulà, 2009). The involvement of social actors with different worldviews and values enhance pluralism and diversity in the learning process itself (Wals & Blaze Corcoran, 2006; Wals & van der Leij, 2007). Utilising diversity as a tool for social learning implies dealing with conflict and consensus. It entails developing participants' competences to understand people's values and divergent opinions about how to move to a more sustainable world.

As an example, the Education for Sustainable Development and Cultural Diversity project<sup>66</sup> in Montsebu, Japan, has set up a network called Mo-pet Sanctuary which includes local members, indigenous and non-indigenous people, and NGOs. The project engages all these stakeholders to negotiate their views about sustainability in the region. The project coordinators have stated that this process is essential to ensure that people from different cultural backgrounds and visions for the future can live together in the same region and respect each other.

- *Strand 6. Seeing the bigger picture* (Doppelt, 2010; Loeber et al., 2007; Sterling, 2007; Tilbury, 2007a; UNECE, 2011; Wals et al., 2009)

Doppelt (2010) emphasises that changing organisations towards sustainability requires people to think systemically and see the bigger picture. Through social learning processes, stakeholders are challenged to analyse systems in broader perspectives. Participants are engaged in identifying and analysing the different interrelationships which are established between the components of a system and their connections to the broader context and environment (Sterling, 2004; UNECE, 2011; Webster, 2004). Social learning processes, thus, reject fragmentary or segregated thought and encourage participants to anticipate possible consequences of their concerted actions (Sterling, 2004).

### **3.4 FRAMING SOCIAL LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION**

Social learning processes in the area of sustainability in the higher education sector have been subject of little attention and scrutiny. This gap in the literature stresses the need for advancing conceptualisation, research, practice and evaluation of this critical process (Glasser, 2007). In this section, I explore the potential value of social learning processes in higher education and its possible links with cultural changes in the area of sustainability. As mentioned earlier (see 3.1), this research aims at advancing the conceptualisation of this process in the university context.

---

<sup>66</sup> See: <http://insight.glos.ac.uk/sustainability/unescoculture>

### 3.4.1 Developments and research in social learning for sustainability in higher education

In the higher education sector, some scholars such as Wals<sup>67</sup> (2010b) have sought to introduce social learning practices and sustainability principles within the formal curriculum. Wals uses some of the components of social learning processes (see section 3.3.3) to identify educational design principles which can strengthen sustainability competences. He argues that facilitating learning for sustainability processes in a classroom consists of providing “spaces for transformative social learning” (p. 388). Such spaces offer great opportunities to learners to discuss alternative pathways towards sustainability; challenge values, thinking and practices; establish dialogue free of power relations; and, utilise diversity and pluralism as means for negotiating meanings, conflicts, disagreements and consensus. Although I agree with Wals that the facilitation of such critical learning spaces contribute to assist learners in developing competences required to face present and future sustainability challenges, I do not necessarily embrace this practice as a social learning process within higher education. In my research, I propose that social learning in higher education is viewed as a process occurring through social interaction, the hidden curriculum and as an informal learning opportunity taking place outside the formal curriculum and educational settings of a higher education institution – i.e., within the informal and socio-cultural context of the organisation.

Although addressing sustainability outside the higher education formal curriculum and formal learning structures is not a new area in sustainability, it is still a topic under-researched. In the UK, for example, innovative whole-institutional case studies have driven efforts to changing institutional wider cultures through providing learning opportunities which transcend the curriculum sphere. At the University of Plymouth, student and staff learning opportunities are provided based on their unique ‘Four Cs’ model (Curriculum, Campus, Community and Culture) (Blake, Selby et al., 2007; Gray-Donald & Selby, 2006). In Bradford, a case study selected for this research, cultural change towards sustainability is supported through the formal, informal and campus

---

<sup>67</sup> Wals is a key author on social learning who has actively promoted and facilitated multi-stakeholder social learning processes to improve policy-making. Within higher education, he also proposes to integrate social learning for sustainability in the formal curriculum. Although I have been inspired by his work, my research does not necessarily embrace his definition of social learning in the context of higher education.

curriculum. The University of Bradford sustainability framework is innovative in the sense that learning is at the core of all the transformation processes. Although champions in sustainability and some members of staff are actively involved in implementing this institutional project, most of the activities are addressed to enhance students' sustainability opportunities.

Research into social learning has also recently begun to feature in the higher education literature. An example is the PhD study conducted by Lipscombe (2009) who empirically explores the use of extra-curricular interventions in higher education institutions in the UK. This scholar uses the term extra-curricular interventions to refer to the activities which universities organise to extend the opportunities to engage staff and students in sustainability learning outside the formal curriculum. Lipscombe (pp. 37-38) asserts that sustainability extra-curricular activities are considered to be disciplinary and community bridges; they offer a space for social learning and form part of the institutions' 'socialisation scaffold.' Through a postal survey sent to different UK universities, he analysed the extent and type of interventions in use and opinions about their utility. The survey included the following sustainability-specific extra-curriculum activities: (i) events on-campus; (ii) events off-campus; (iii) awareness campaigns; (iv) training and development opportunities; (v) sustainable development related groups for students/staff to join in; and, (vi) modification of campus environments. The results of the survey show that extra-curricular practice in the area of sustainability in the 72 universities which responded to the questionnaire was common. It demonstrates that although little regard has been given to these activities in the literature, at the practice level, higher education institutions acknowledge their role in engaging students and staff in sustainability thinking and action outside the formal curriculum.

Participatory and action-research have also offered learning opportunities outside the formal curriculum. This type of research is important as it provides participants with an opportunity to engage in sustainability through interacting with other people with different views; explore sustainability questions; and, identify new ideas for further exploration (Park, 2001). Action-research is an interesting social learning mechanism as it focuses on building the capacity for staff to reflect and take actions to change their institutions (Bradbury & Reason, 2001). Research participants are encouraged to reflect

on sustainability issues which are relevant to their workplace or lifestyles in a collaborative and participatory approach. In addition to these forms of research, mentoring has also been acknowledged as a good process to enhance social learning. Mentoring is related to the process of informing, advising, helping staff who are engaged in the sustainability agenda. Tilbury (2007a) states that the peer-to-peer learning paradigm currently associated with mentorship programmes confirms the role of this practice in providing social learning opportunities for sustainability.

My research acknowledges the contribution of the small number of universities which seek to extend informal sustainability learning opportunities as well as Lipscombe's (2008 2009) work on understanding how extra-curricular activities can enhance the sustainability performance in a higher education institution. For example, I have used Lipscombe's extra-curricular approach to capture part of the facilitated social learning which occurs in higher education. However, my research considers that social learning processes in the area of sustainability entail much more than looking *where* these informal activities occur. My study has looked at *how* learning occurs and has sought to examine its quality. My research emphasises that not all extra-curricular or informal learning opportunities are social learning processes. Processes associated with social learning for sustainability will embrace the strands identified in section 3.3.2.

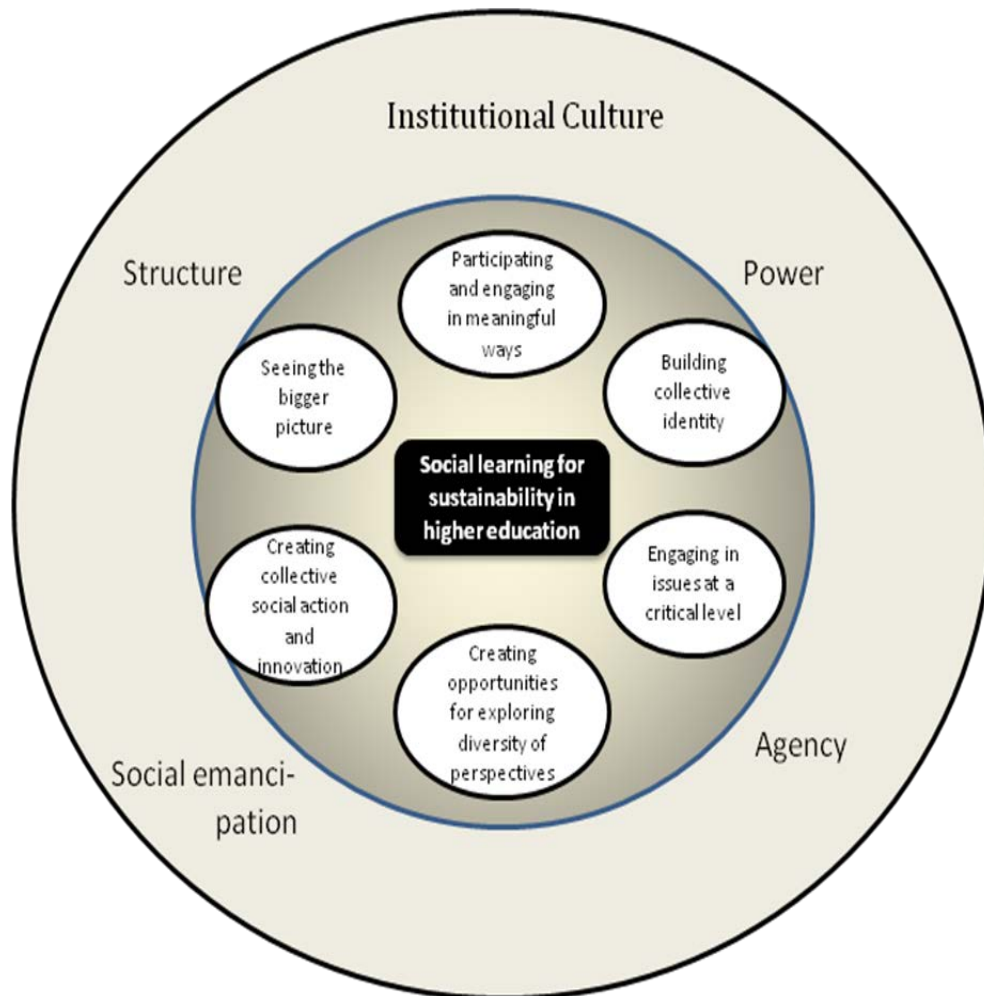
In the next sub-section, I outline key issues which I consider of relevance when analysing social learning for sustainability in a higher education institution.

### **3.4.2 Exploring social learning for sustainability in higher education through critical social theory**

The research seeks to fill in some of the gaps existing in the literature of social learning for sustainability through critically understanding how this process takes place in a higher education institution. Figure 3.1 illustrates key strands of social learning for sustainability as well as strands which reflect the critical social approach of this process. Exploring social learning for sustainability in higher education through a critical social lens requires examining strands related to (i) institutional culture; (ii) structure; (iii) agency; (iv) power structures; and, (v) social emancipation.



Figure 3.1 Critical strands of social learning for sustainability in higher education



- *Institutional Culture*

Several authors assert that the definition of institutional culture remains unclear and subject to conceptual misunderstanding (Archer, 1985; Palmer & Hardy, 2000). Schein (2004, p. 17), a key scholar in this area has defined it as:

"A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems."

In the context of higher education, defining culture is a complex undertaking as there is a lack of research within this sector (Tierney, 1998). According to Kezar and Eckel (2002), research into institutional culture in higher education has primarily recognised that culture is connected to effectiveness, core processes, and organisational success. It has also showcased that universities have unique cultures which differentiate them from other institutions. Institutional culture in this sector can be defined by the intersection of many different and unique cultures and rituals taking place in the various campuses, schools, faculties and colleges of the institutions. The different backgrounds, interests, working styles and forms of social interaction and learning which students and staff bring to the institution reflect the complexity of cultures which a higher education institution embraces.

Recently, it has been recognised that advancing the sustainability agenda in higher education will be subjected to the ability of an institution to reflect more deeply and transform its wider culture (Blake, Selby et al., 2007; Gray-Donald & Selby, 2006; Hopkinson et al., 2008). Through my research, I argue that sustainability research in higher education has not contributed to understanding the important relationships which exist between sustainability and institutional culture. My study seeks to contribute to this gap through investigating if there exists a dialectical relationship between social learning and institutional culture.

- *Structure*

The most prominent effort to reconceptualise the term 'structure' in recent social theory has been made by Anthony Giddens (1984, 1999). As further explained in chapter 5 (see 5.3.2), his theory of structuration challenges traditional views of structure and agency which claim that both dynamics are opposed. This author indicates that structures must be perceived as 'dual' as they both mediate and influence the outcomes of social practice. Structures determine people's sustainability social practices and choices, but, at the same time, people also shape and transform these structures. Delanty (1999) notes that the theory of structuration is important to understand as it sets the basis for how agents construct institutional systems and how social action mediates institutions.

My research seeks to understand how higher education structures may mediate and influence social learning processes and social action in the area of sustainability. It explores if members of staff can challenge and change these structures through engaging in social learning processes in the area of sustainability.

- *Agency*

Giddens (1984) conceptualises agency as the capacity of actors to reproduce or modify structures. For Hays (1994), if enough people or a few people with enough power act in innovative ways, their actions can result in deep transformations of the structures which rule their practices, but also gives them the opportunity to act. The theory of structuration is therefore relevant to social learning for sustainability as it acknowledges that social agents, who are 'knowledgeable' and reflexive, are capable of working in creative and innovative ways to change structures, systems and institutions towards sustainability. This research assumes that members of staff in a higher education institution have the power to act towards sustainability and change their organisations through making use of their knowledge and reflexivity.

- *Power*

As Wenger (1998) suggests, it is important to challenge traditional views of power which only acknowledge its role in dominating and oppressing individuals and social groups. Although power relations which restrict social learning processes in the area of sustainability need to be identified, questioned and challenged, power can also be understood as an inherent positive transformational attribute of individuals (Gaventa & Cornwall, 2001; Hayward, 1998). Power as a positive attribute plays a key role in social learning processes as learners are empowered to lead change towards sustainability within their institutions and engage in cultural change processes. This research explores both types of power and seeks to identify how they limit and/or enable social learning for sustainability.

- *Social emancipation*

Social action in the area of sustainability is possible when actors in an institution are able to engage in free speeches and decision-making processes. Social learning processes based on communicative action and interaction processes are key to providing learners with opportunities for social emancipation to act more freely in the context of their institutions. In chapter 5, section 5.5.1, I outline the conditions described by Habermas (1984) under which interaction and communication could be free from social interests and domination and, thus, where communicative action and social learning for sustainability can occur. My research analyses social learning practices which are based on communicative interactions and, at the same time, collects data using a collaborative approach of research based on communicative action.<sup>68</sup>

---

<sup>68</sup> The research has used Habermasian communicative action theory (1984, 1987) to develop a conceptual framework of social learning for sustainability in higher education, but also to conduct collaborative research with members of staff from different universities. I hope this approach has enhanced the research congruence of the study (see chapter 5, section 5.5, to learn more about how communicative action has informed the study).

### 3.5 SUMMARY

The theoretical background and academic foundations of social learning have been unpacked in this chapter. I have recognised the work of social theorists and acknowledged that the role of social interaction, dialogue and negotiation has informed perspectives of social learning. These theories, primarily constructivist and critical in their nature, form the basis of the current approaches and definitions of this learning process.

The chapter has also reviewed sustainability from a social learning perspective and identified key strands and components of this process. I have tried to clarify the role of higher education institutions in supporting social learning processes in the area of sustainability and outline key issues which need to be explored.

Below is summarised the key points arising from this chapter which serve to inform the focus of the empirical study:

- 1) Social learning for sustainability is generally conceived as a critical process which challenges mindsets, worldviews, actions and practices of participants.
- 2) Some scholars have categorised processes as passive or active social learning. My research has only looked at active social learning processes as they are considered to be more aligned to the sustainability paradigm and socially critical approach I adopt.
- 3) Some authors describe social learning as a facilitated learning process. Others have focused on analysing the socio-cultural context where learning takes place and providing the structures for spontaneous (not facilitated) dialogue processes. My research has explored both facilitated (or planned) and unfacilitated (or unplanned) social learning processes.
- 4) There is agreement regarding the key strands of social learning for sustainability. Six strands have been identified in this chapter. These are: (i) participating and engaging in meaningful ways; (ii) building collective identity; (iii) engaging in issues

on a critical level; (iv) creating collective action and innovation; (v) creating opportunities for exploring diversity of perspectives; and, (vi) seeing the bigger picture.

- 5) In the context of higher education, little attention has been paid to social learning for sustainability and its role in shaping institutional culture towards sustainability. Some attempts to explore this process have focused on enhancing participatory and trans-boundary learning processes in the formal curriculum. Critical theory has much to offer to conceptualise this process within the higher education sector.
- 6) There have been only a few recent studies which have contributed to understanding social learning for sustainability as an extra-curricular activity. These studies have contributed to mapping different sustainability activities which universities are currently promoting outside the formal curriculum. My research engages in analysing some extra-curricular interventions which have the potential to provide social learning opportunities for sustainability, but goes further as it analyses how learning takes place within these activities. The study proposes an alternative view of social learning for sustainability as it has also looked at the possible dialectical relationships between institutional culture and social learning providing a deeper understanding of how institutions may shape and change their broader cultures.
- 7) The chapter explains that this research explicitly explores staff learning occurring within the socio-cultural context of a higher education institution. It sees members of staff as key social agents who are able to engage in a process of change for sustainability.
- 8) To understand how social learning for sustainability of staff occurs in a higher education institution, my research explores the following strands which underpin critical social theory: (i) institutional culture; (ii) structure; (iii) agency; (iv) power; and, (v) social emancipation. These strands are examined taking into account the historical contexts of higher education institutions.

## **CHAPTER 4 INDICATORS OF LEARNING FOR SUSTAINABILITY IN HIGHER EDUCATION**

### **4.1 INTRODUCTION**

Abraham Lincoln (1858) reminds us that “if we could first know where we are, and whither we are tending, we could better judge what to do, and how to do it.”

Recent years have seen a rise in interest in the concept and use of indicators for assessing sustainability progress or performance and planning future actions (Bell & Morse, 2008; Hodge & Hardi, 1997). Indicators can help people and institutions to understand baseline states in the area of sustainability (McCool & Stankey, 2004); provide early warnings of change (Ross, 1990); as well as serve as “simplifying communication tools” to improve decision-making processes (Spangenberg, 2002, p. 105; UN, 2007). The language and methodological approaches underpinning indicators have also evolved to become more strongly aligned with sustainability frameworks.

In this chapter, I firstly explain what is often understood by the term ‘indicator’ and how indicators can assist in monitoring, benchmarking and in informing institutional plans for sustainability. The key developments regarding sustainability indicators are summarised and the different types of indicators which can assess learning processes in this area are explained. This section also considers existing indicator frameworks which have been developed at an international or national level with a focus on education and learning for sustainability. I then turn my attention to learning for sustainability indicators specifically developed for higher education and analyse benchmarking experiences at this level. This review is important to inform the development of social learning indicators which my research proposes and identify opportunities to integrate them in current benchmarking frameworks.

### **4.2 WHAT IS AN INDICATOR?**

People make use of indicators on a daily basis for making decisions (Acton, 2000; Eder, 2004; Podger et al., 2010). For example, a grey and cloudy sky indicates that it may rain

and, thus, that we need to take a thick coat and an umbrella with us. The simplicity of this indicator contrasts with the complexity underpinning the identification of sustainability indicators which aim to assess the interplay amongst environmental, socio-cultural and economic issues (Bell & Morse, 2008; Moldan & Dahl, 2007), or indicators of learning for sustainability which try to assess processes and quality of educational practices regarding sustainability (Vare, 2006).

In general terms, an indicator can be defined as a variable (not a value) which represents an attribute (quality, characteristic or property) of a system (Gallopín, 1997); indicators are images (measurements or observations) of the attributes which describe the system of interest. Sometimes, indicators have also been defined as accessible 'proxies' for properties of a system which are difficult to collect, measure and observe, but are important to assess (Eder, 2004). As Meadows (1998) states, indicators show how the system works, what is important in the system and what should be measured. Ideally, indicators have the capacity to identify issues and problems within the system which need to be fixed and improve decision-making processes to solve these problems (UNECE, 2006). However, indicators can also create serious malfunctions and indicate wrong directions for the future when underlying assumptions have not been outlined, data collection methods and reporting mechanisms have not been clearly identified, or guidelines for interpretation are not provided (Reid et al., 2006).

Issues also arise when a reductionist or oversimplistic approach to indicators is adopted which ignores interrelationships or the system itself. Bell and Morse (2008, p. 19) remind us that "a focus on one problem in isolation could at best achieve nothing and at worse create more intractable problems elsewhere." In this regards, several authors suggest that the systemic nature of sustainability demands whole-system attributes and holistic indicators which can describe the complexity of this dynamic (Gallopín, 1997; Hodge & Hardj, 1997; Sollart, 2005). It has been suggested that sustainability requires a system of indicators which can provide information about each attribute of the system, but also about how the different components relate with each other to produce the overall outcomes (Reid et al., 2006).



In the area of education and learning, where my research is located, indicators can be defined as “products or behaviors which serve as evidence that what is expected to be learned is actually being learned” (Eder, 2004, p. 141). This is a difficult task as what is being learned, or the action of learning is sometimes invisible. Thus, indicators will provide critical information about a series of attributes, such as inputs and outputs of learning, which can gauge progress of educational processes (Tilbury & Janousek, 2006). In learning for sustainability, for example, critical thinking is an important attribute. Examples of indicators include:

- i) % of formal courses which provide critical thinking as a learning objective in the area of sustainability;<sup>69</sup> or,
- ii) the number of learners who have benefited from training on critical thinking in the area of sustainability;<sup>70</sup> or,
- iii) critical thinking is a learning objective embedded in the formal and informal curriculum;<sup>71</sup> or,
- iv) the learners demonstrate the ability to think critically.<sup>72</sup>

As observed from these examples, many different indicators can be defined depending on the objectives, assumptions, goals and scale which underpin the assessment exercise. Indicators can be quantitative (examples i and ii) or qualitative (examples iii and iv). The first provide data in the form of numeric values, percentages, rates, or means, and the latter offer information in the form of verbal and written descriptions and observations (Tilbury & et al., 2007). Many times, quantitative indicators have been considered to be more reliable and valuable as they can be easily measured, validated and communicated. This assumption may be true for certain types of indicators and should not rule out the possibilities of developing qualitative indicators (Gallopín, 1997). Some important information related to, for instance, the quality of learning processes

---

<sup>69</sup> Used to assess learning for sustainability within institutional programmes, for example.

<sup>70</sup> Used to assess capacity building in the area of learning for sustainability.

<sup>71</sup> Used to assess the alignment of course or programme objectives in learning for sustainability.

<sup>72</sup> Assesses the quality and/or outcomes of learning for sustainability programme or experience.

regarding sustainability cannot be captured through numeric values and quantitative indicators (University of Brighton, 2009).

As an example, the Monitoring and Evaluation Expert Group<sup>73</sup> (MEEG) for the United Nations Decade of Education for Sustainable Development (UN DESD) uses quantitative indicators to ascertain general trends and improvements in structures and contexts for learning for sustainability, but admit that only qualitative indicators can provide a genuine indication of progress in this area as these enable processes and quality of learning to be ascertained (Wals, 2009). Tilbury et al. (2007) acknowledge that both types of indicators should be explored and combined in order to address different assessment needs.

A series of questions can assist in interrogating indicators so we can understand their value and limitations: what indicator framework is used?; what are the assumptions underpinning the definition of indicators?; how are the indicators developed?; what is the scale of the indicators?; who is involved in the process?; what is the purpose of the indicators?; who will be using these indicators?; what are the shortcomings of these indicators?; and, how will data be collected and interpreted? It is important to note that whereas indicators are useful tools to guide decision-making and action-taking processes, they are not an “end in themselves” and “should not be the sole basis for judgment” (Reid et al., 2006, p. 6)

### **4.3 SUSTAINABILITY INDICATORS**

#### **4.3.1 International momentum for sustainability indicators**

The development and use of indicators in the area of sustainability proliferated in the wake of the Rio Earth Summit’s call through chapter 40 of Agenda 21 (UN, 1992) which encouraged nations to define indicators to track progress and improve decision-making in sustainability. In 1995, in response to this mandate, the UN Commission on

---

<sup>73</sup> UNESCO established the MEEG in order to guide the preparation and implementation of the UN DESD Global Monitoring and Evaluation Framework (GMEF). The MEEG comprises specialists who have expertise and experience in monitoring and evaluation.

Sustainable Development (UN CSD)<sup>74</sup> approved the Work Programme on Indicators for Sustainable Development.<sup>75</sup> The UN CSD published two sets or editions of sustainability indicators in 1996 and 2001 (see UN, 1996; UN, 2001). In 2007, a third edition was published incorporating (i) the recommendations made in the Johannesburg Plan of Implementation (UN, 2002a); and, (ii) the results from a review of initiatives of sustainability indicators undertaken by the International Institute for Sustainable Development (IISD) and commissioned by the UN Division on Sustainable Development in 2005.

The Johannesburg Plan of Implementation (UN, 2002a) encouraged further work on indicators at national levels along the lines of national conditions and contexts. It invited stakeholders and countries to assist developing countries to design their own indicators. It also called for the integration and further consideration of the Millennium Development Goals (MDGs) in the monitoring and assessment tools.

The IISD study developed a database<sup>76</sup> compiling various different experiences on sustainability indicators across the globe. In total, the database comprised 699 experiences which demonstrates the growing interest and advances in this area. This database is one of the most ambitious projects in collecting and analysing sustainability indicator projects (see Pintér et al., 2005).

The UN has encouraged countries to use the indicator framework outlined here to assess their sustainability progress or define national sustainability indicators (UN, 2007). The framework contains 96 sustainability indicators, including a sub-set of 50 core indicators. The indicators proposed are clustered into various themes which embrace social, environmental and economic areas. Education has been identified as a

---

<sup>74</sup> The UN CSD was established as a functional commission of the Economic and Social Council. The Commission is composed of 53 members elected for terms of office of three years. The role of the Commission as a high level forum on sustainability includes: (i) review progress of Agenda 21 and the Rio Declaration; (ii) elaborate policy guidance in the area of sustainability; (iii) promote sustainability dialogue and partnerships with different stakeholders identified in Agenda 21. For more information about this Commission, please visit: [http://www.un.org/esa/dsd/csd/csd\\_csd12.shtml](http://www.un.org/esa/dsd/csd/csd_csd12.shtml).

<sup>75</sup> See: [http://www.un.org/esa/dsd/dsd\\_aofw\\_ind/ind\\_index.shtml](http://www.un.org/esa/dsd/dsd_aofw_ind/ind_index.shtml)

<sup>76</sup> To view the database, please refer to: <http://www.iisd.org/measure/compendium/>

core theme in the framework as it is considered to be a critical element in the achievement of sustainability. For example, educational indicators identified include: *children reaching grade 5 of primary education; adult secondary education achievement level; and, adult literacy level*. Although these indicators can show the status and trends of certain educational efforts, scholars assert that they cannot indicate whether learning is contributing to a move towards sustainability or whether it is merely showcasing the effectiveness of educational processes (van Raaij, 2007).

There are many other examples of international sustainability indicator initiatives which are also important to showcase in this section. For example, the MDG indicator framework (UN, 2008) has defined indicators to capture data on the progress made at a global level regarding the eight MDGs.<sup>77</sup> This initiative, has inspired other sustainability indicator frameworks such as the UN sustainability indicators referred to earlier but, more importantly, has raised the importance of including indicators which measure educational progress at international and national levels. However, as stated by Fukuda-Parr (2004, p. 399), education indicators within this framework “could lead to a preoccupation with quantitative rather than qualitative achievement, such as the number of children enrolled in schools rather than the quality of the education.”

Also noteworthy, is the European Union (EU) sustainability indicator framework.<sup>78</sup> The EU has identified more than 100 sustainability indicators clustered under the following themes: socio-economic development; sustainable consumption and production; social inclusion; demographic changes; public health; climate change and energy; sustainable transport; natural resources; global partnerships; and, good governance (European Communities, 2009). An educational indicator has been included under the social inclusion theme, but, just as the other indicator frameworks explained earlier, it does not give a genuine indication of the progress made through educational efforts.

---

<sup>77</sup> The eight MDGs are an end to poverty and hunger; universal education; gender equality; child health; maternal health; combat HIV/AIDS; environmental sustainability; and global partnership. For more information about the MDGs and their indicators, visit: <http://www.un.org/millenniumgoals/>

<sup>78</sup> For more information about the European Union’s initiative on sustainability indicators, see: <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/>

Educational indicators included in these frameworks are primarily development indicators. These indicators provide quantitative data about the state of education at international and national levels. However, they give little information about the quality and learning processes associated with sustainability. Orr (1991) acknowledges that the most educated are those who are exploiting the people and the planet. This author stresses that it is important to assess what type of education is encouraged, and not just identify education which contributes to sustainability.

It is important to note that apart from the development of indicator frameworks, quite a popular approach to tracking progress of sustainability is also the use of indices. Indices are highly aggregated and complex indicators which condense and assemble a great amount of information (Malkina-Pykh, 2002). Their reductionist approach in attempting to integrate a great variety of diverse complex processes in simple measures has been highly criticised by the international community (Bell & Morse, 2008; Bossel, 1997). Some of these indices, such as the Ecological Footprint<sup>79</sup> or the Environmental Sustainability Index (ESI),<sup>80</sup> have been used as indicators to measure specific dimensions of sustainability (Chambers et al., 2000).

#### **4.3.2 National progress through sustainability indicators**

At a national level, many countries such as Spain (see INE, 2009), Finland (see Ministry of the Environment, 2007) or Switzerland (see Swiss Confederation, 2011), have defined sustainability indicator frameworks to assess the implementation of national sustainability strategies.

In New Zealand, for example, sustainability indicators provide information about whether current needs are met, how resources are distributed, how efficiently these resources are being used, and what impact actions may have on the stock of resources

---

<sup>79</sup> The Ecological Footprint is an environmental index which measures how much land and water area a human population requires to produce the resource it consumes and to absorb its wastes, using prevailing technology.

<sup>80</sup> The ESI has been developed at Yale and Columbia Universities in America in collaboration with the World Economic Forum. It measures and ranks countries on their environmental sustainability. For more information about the ESI, see: <http://www.yale.edu/esi/> and <http://sedac.ciesin.columbia.edu/es/esi/>

available in the future (Statistics New Zealand, 200). Various indicators have been defined and clustered within 15 different topics, including: population; biodiversity; air and atmosphere; water; land use; energy; transport; waste; innovation; work, knowledge and skills; economic resilience; living conditions; health; social connection and governance; and, culture and identity.

In the UK, to review the progress of the national strategy for sustainable development, *Securing the Future* (UK Government, 2005), 68 sustainability indicators were constructed. Indicators were developed to overview progress across four themes: sustainable consumption and production; climate change and energy; protecting natural resources and enhancing the environment; and, creating sustainable communities (Defra, 2010). In 2005, the Department for the Environment Food and Rural Affairs (Defra) and the Department for Education and Skills (DfES) were actively seeking to develop and include an indicator to show the impact of education on sustainability. The Sustainable Development Commission (SDC) outsourced this work to a consultant who proposed various approaches to construct this indicator and organised a series of consultative workshops with educators who raised awareness and created a critical debate on the use of indicators to capture progress in learning for sustainability (Huckle, 2006, 2009). Experts and educators raised critical issues regarding this approach and warned about using single educational indicators to monitor learning for sustainability (Tilbury & Janousek, 2006). Six years later, the sustainability education indicator is still to be developed: it has not been possible to find a simple or single indicator to measure progress on learning for sustainability.

The following section of this chapter introduces the initial efforts to develop learning for sustainability indicator frameworks, reviews a wide range of international experiences and analyses different types of indicators. This section is especially important to understand the types of indicators which I can draw upon in my research of indicators on social learning for sustainability in higher education.

#### 4.4 INDICATORS OF LEARNING FOR SUSTAINABILITY

The first formal call on the need to define indicators of learning for sustainability was made by UNESCO, which identified monitoring and evaluation as a priority strategy to ascertain whether the UN DESD could make a difference and influence change towards a sustainable future and education (UNESCO, 2005). In 2009, the UNESCO World Conference on ESD held in Bonn (31 March – 2 April) reminded us of the need for identifying suitable indicators which could monitor progress in the area of learning for sustainability. More specifically, the Bonn Declaration (UNESCO, 2009b) emphasised the importance of promoting informed policy-making and dialogue through monitoring and evaluation mechanisms developed by stakeholders and major groups. UNESCO included the need for indicators in this area in the *Strategy for the Second Half of the DESD* (2010-2015) as a key priority area of action (UNESCO, 2010c).

The use of learning for sustainability indicators has raised very interesting debates within the education community. Many experts and practitioners in the field have frequently defined indicators as valuable tools for ascertaining whether education is making a real difference to the move towards sustainability (Reid et al., 2006; Tilbury, 2007b). They affirm that learning for sustainability indicator-based assessments are valuable in terms of their transparency, consistency and usefulness in decision-making (Lozano, 2006). Other academics and stakeholders, though, view indicators as reductionist tools which cannot capture the real and valuable information regarding the learning processes which underpin sustainability. The reality is that many learning for sustainability indicator frameworks have used the same technical approaches employed to define sustainability indicators. These approaches do not align with the principles and pedagogical approaches underpinning learning for sustainability. They do not reflect the holistic, critical and transformative paradigm of learning for sustainability (Fien, 1992; Sterling, 2001; Tilbury, 2011b). Some authors are also sceptical about the role of these tools in tracking *progress* of learning for sustainability, as the concept of *progress* is many times associated with economic development (González-Gaudio, 2005; Gutiérrez Pérez & Pozo, 2005). I use this terminology as my understanding of *progress* includes the emancipatory process of learning in providing a positive and self-fulfilling human development.

Despite the criticisms generated about this emerging trend, it is evident from the literature that the development of learning for sustainability indicators is gaining importance over the years with the creation of sophisticated and innovative projects which intend to engage nations and organisations in rethinking the ways learning for sustainability is approached (see, for example, projects developed by Podger et al., 2010; Tilbury & et al., 2007). The progress in this area, however, is still slow and sometimes difficult for stakeholders as the challenge remains to understand the nature and types of indicators that learning for sustainability requires. In addition, data collection and reporting mechanisms are still to be improved (Mulà, 2008). In my view, it is important to acknowledge the values and limitations of indicators. Indicators, if defined appropriately, can be useful tools for capturing information and trends on learning for sustainability practices and ascertaining progress in this area. However, change towards sustainability will depend on a wide range of issues which indicators will not always be able to reflect (Reid et al., 2006).

#### **4.4.1 Learning for sustainability frameworks: A review of experiences**

In this section, I have selected the most relevant international learning for sustainability indicator frameworks in the literature which can inform my research on social learning for sustainability indicators. In this section, I am particularly interested in outlining the value and limitations of the initiatives showcased. Appendix 1 provides more information about these important projects.

- *UNECE Education for Sustainable Development (ESD) indicator framework (UNECE member states – Europe and North America)*

I have selected the UNECE ESD indicator framework<sup>81</sup> (see UNECE, 2005b) as an important initiative to showcase because it is the first international experience which attempted to define learning for sustainability indicators and has provided a learning platform for the use of indicators in this area (Huckle, 2009; Mochizuki, 2008). This was a challenging project as prior academic and practical knowledge of indicators in this area was limited at the time when UNECE indicators were developed. Key authors

---

<sup>81</sup> For more information about the UNECE experience, see: <http://www.unece.org/env/esd/SC.EGI.htm>



acknowledge that this initiative has provided a momentum and language on the use of indicators to identify trends in the area of learning for sustainability (Siemer et al., 2006; Tilbury & Janousek, 2006).

The UNECE ESD indicator framework was developed by the UNECE Expert Group on ESD Indicators<sup>82</sup> in 2006 with the aim of monitoring the implementation and effectiveness of the UNECE *Strategy of Education for Sustainable Development* (UNECE, 2005a). The nature and scale<sup>83</sup> of this task meant that the monitoring process primarily focused on assessing the contexts, structures and support systems in place to encourage learning for sustainability processes within the UNECE countries (Bormann, 2011; UNECE, 2009).

The Expert Group developed a template of indicators and invited UNECE countries to complete it. The template was developed taking into account that each country in the region has a different cultural background, political system, understanding of sustainability and economic opportunities (van Raaij, 2007). Using a regional template created uniformity in reporting as all countries were asked to report on the same learning for sustainability components. However, it proved to be difficult to complete for government staff and stakeholders who were unfamiliar with the use of indicators (Wals & Ernstman, 2007).

A UNECE global report released in 2007 reflects on the results from the information collected from the templates and outlines key recommendations to improve the data collection and evaluation methods required by indicators (see Wals & Ernstman, 2007). Key issues and limitations of this project include:

- A few stakeholders were involved in capturing information at a national level. Most of the questionnaires were completed by national Ministries of Education and Environment. It was acknowledged that capturing the data required by indicators is enhanced when evidence is provided through multi-stakeholder participation (Wals,

---

<sup>82</sup>The UNECE High-level Meeting established in 2005 the ad hoc group of experts to develop indicators to measure the effectiveness of the implementation of the UNECE *Strategy of Education for Sustainable Development*.

<sup>83</sup> The UNECE region comprises 55 countries in Europe and North America.

2009; Wals & Ernstman, 2007). Through this approach, people's voices and perspectives of sustainability can be heard and captured, and validity of the monitoring process is enhanced.

- The data collected was primarily focused on the formal education system and less information was collected regarding non-formal and informal education. This is one of the results of engaging a few stakeholders in data collection process.
  - The framework was complex and extensively used checklist and input indicators.<sup>84</sup> The indicators defined primarily assessed the context and structures in place to support learning for sustainability processes. Little information was captured about the quality of these processes or the changing processes resulting from learning for sustainability efforts.
  - The assessment process raised critical issues on the importance of building capacity on monitoring systems as well as on the need for reducing the complexity of reporting mechanisms.
- *UNESCO Asia-Pacific UN DESD Indicators Project (Asia-Pacific region)*

In 2006, a key initiative on learning for sustainability indicators,<sup>85</sup> was initiated by UNESCO Bangkok with assistance from the Commission of Education and Communication (CEC) of the International Union for Conservation of Nature (IUCN) and in conjunction with the Macquaire University in Australia. I have selected this project as it is one of the most sophisticated experiences regarding the development of learning for sustainability indicators across the globe.

This ongoing project aims to assist countries in developing national indicator frameworks which can monitor and assess the progress and achievements made in the area of learning for sustainability during the UN DESD. In total, twenty countries

---

<sup>84</sup> See section 4.4.2 for more information about the different types of indicators.

<sup>85</sup> For more information about the Asia-pacific indicator project, see:  
<http://www.unescobkk.org/education/education-for-sustainable-development/priority-areas/un-desd/monitoring-and-evaluation/monitoring/>

participate in the project, reflecting the high levels of support, involvement and engagement of this region in learning for sustainability (Ryan et al., 2010). The value of this experience is primarily the collaborative process used to develop indicators at national levels and the innovative learning platforms created for establishing dialogue and capturing lessons learned in this area amongst member countries in the Asia-Pacific region (UNESCO, 2007b).

The first phase of the project consisted of the development of a set of guidelines which assisted stakeholders in understanding the nature of learning for sustainability indicators; provided a platform to share experiences and learning in this area; identified different types of indicators; and provided a framework to guide countries in the Asia-Pacific to develop indicators of learning for sustainability (see Tilbury & et al., 2007). The second phase of the project aims at capturing the challenges, lessons learned and the next steps of member states in developing their national learning for sustainability indicator frameworks. This process is captured through the *Country Updates* which have compiled country progress reports every three months since 2007. This phase consists of sharing experiences and enhancing dialogue amongst countries.

Some of the limitations and challenges of this initiative include:

- Limited resources can result in limited capacity to implement learning for sustainability as well as developing indicators and collecting appropriate data to gauge progress in this area (UNESCO Bangkok, 2008).
- Engaging the corporate sector and government agencies with the learning for sustainability agenda has proved to be difficult. The need to engage the widest range of stakeholders has been recognised (Elias & Sachatp, 2009; Tilbury & Janousek, 2007).
- In order for national stakeholders develop appropriate indicators frameworks, there is a need for constant capacity building opportunities to learn about monitoring processes.

- The possibilities of scaling the project exist, but no current initiative has tried to replicate the framework in other regions.
  
- *UN DESD Global Monitoring and Evaluation Framework (GMEF)*

The UN DESD indicator framework<sup>86</sup> was selected because it is the first experience which has attempted to define indicators to assess learning for sustainability progress at a global level. It consists of a very challenging research and implementation process which I find critical for analysis in my research.

In 2007, UNESCO formed the Monitoring and Evaluation Expert Group<sup>87</sup> (MEEG) and asked them to develop a global framework<sup>88</sup> to assess the progress of the UN DESD at a global and international level, and monitor UNESCO's own progress in the implementation of the Decade. The MEEG proposed that the UN DESD implementation should be monitored through three different phases and recommended the development of a report summarising the results of the assessment for each phase. The phases and reports proposed are:

- Phase I (2007- 2009): focus on context and structures
- Phase II (2010 - 2011): focus on process and learning
- Phase III (2012-2015): focus on impact and outcome

Just as the UNECE initiative, phase I of the GMEF (see UNESCO, 2008b) includes indicators to collect information related to contexts and structures in place to support learning for sustainability systems. This phase was underpinned by a complex process of involving stakeholders in monitoring and evaluation as well as capturing data through various techniques such as a global questionnaire, complementary research, multi-stakeholder consultation and an UNESCO self-evaluation portfolio of evidence. The

---

<sup>86</sup> For more information about the GMEF, visit: <http://www.unesco.org/en/education-for-sustainable-development/monitoring-evaluation-process/>

<sup>87</sup> The MEEG comprises specialists who have expertise and experience in monitoring and evaluation. The MEEG provides guidance on the preparation and implementation of the GMEF.

<sup>88</sup> The GMEF includes information and guidelines on data collection and coordination, reporting mechanisms and learning for sustainability indicators.

multi-method approach added value and enhanced validity of the assessment mechanism. Using a global questionnaire encouraged countries to report on the same learning for sustainability issues and processes, adding uniformity in the reporting mechanism and facilitating the analysis process. However, it also revealed that not all concepts are understood in the same way by the different countries and regions participating in the reporting exercise.

The first UN DESD monitoring and evaluation report, entitled *Learning for a Sustainable World: Review of Contexts and Structures for ESD* (Wals, 2009), was released in 2009 at the UNESCO World Conference on ESD (31 March – 2 April). The report raised critical issues and limitations of the GMEF, such as:

- The GMEF is more likely to identify changes which occurred within the ten-year period of the UN DESD, rather than ascertaining the differences made by the Decade itself. As Mulà and Tilbury (2009) state, on the one hand, ascertaining whether the Decade is making a difference implies defining clearer goals and indicators for the UN DESD. On the other hand, it also depends on stakeholders' expectations of the UN DESD impact as well as on their involvement in collecting data and tracking national progress.
- Information about indicators was primarily reported by Ministries of Education and Environment of the different nations which participated in the monitoring process. The data collection and validity of the process could have been enhanced if a wider range of stakeholders were involved in capturing information (Mulà, 2008).
- Emphasis was placed on formal education and little information was captured about learning for sustainability processes in non-formal, informal and social learning processes (Wals, 2009).
- The indicators included in the template/global questionnaire could be answered in a yes/no format and more deep and qualitative information could be given to support each answer. The reality was that countries tended to limit their answers to a yes/no which reduced the opportunities to understand the progress related to each indicator.

- Resources and time constraints were identified as limitations of the monitoring process. The lack of resources meant that only information which was already available was captured and analysed. The information available is usually related to inputs, structures and support systems in place, rather than to learning and quality of teaching processes in the area of sustainability (Wals, 2009).

The MEEG is currently defining indicators to assess the progress on the areas defined for phase II of the UN DESD monitoring process (see UNESCO, 2010b). The indicators and results for Phase II, expected in 2012, have created a great expectation as they intend to ascertain processes and quality of learning (see Tilbury, 2011b). Thus, for the first time, indicators will be used to identify best practice in this area.

- *The Nordic Council of Ministers initiative on ESD indicators (Nordic countries)*

The Nordic Council of Ministers is an organisation for formal cooperation amongst the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). In 2005, the Council adopted a revised sustainability strategy which explicitly promoted learning for sustainability in the educational system (Nordic Council of Ministers, 2005). I have selected this initiative because it offers a different perspective on how learning for sustainability indicators can be defined to assess a regional sustainability strategy.

The indicators<sup>89</sup> defined were developed by an ESD Working Team comprising of key stakeholders from each Nordic country. Because all five states form part of the UNECE region, it was agreed that the indicators would follow a similar format to the ones developed by the UNECE indicator framework. Thus, the data captured at national levels could be used to report to both the Nordic Council and the UNECE.

The indicators defined are checklist and input indicators.<sup>90</sup> They mainly assess contexts and structures in place for learning for sustainability, such as availability of a learning for

---

<sup>89</sup> For more information about the indicators defined by the Nordic Council of Ministers, please visit: <http://www.norden.org/en/nordic-council-of-ministers/ministers-for-co-operation-mr-sam/sustainable-development/indicators-for-sustainable-development>

<sup>90</sup> See section 4.4.2, for more information about the different types of indicators.

sustainability strategy or policy; the extent to which learning for sustainability is embedded in formal education; the existence of learning for sustainability networks, etc. (Lindberg, 2006). These indicators were developed as open ended questions and sent to Ministers of Education. Whereas this reporting mechanism enabled countries to provide detailed qualitative information about the progress made in the area of learning for sustainability in formal education, the risk of only involving the Ministers of Education was that the data provided only reflected the government position and perspective on learning for sustainability.

In 2009, a new revised sustainability strategy was adopted by the Council which continues to support the assessment of learning aspects of sustainability within the Nordic region (Nordic Council of Ministers, 2009).

- *Environment and School Initiatives (ENSI) Quality Criteria for ESD-Schools* (Europe and Asia-Pacific)

I have selected this initiative because it presents another perspective on the use of indicators. In this case, the ENSI Quality Criteria<sup>91</sup> for schools (Breiting et al., 2005) uses a criteria (rather than indicator specific) approach to improve quality processes and self-assessment at the school level. As stated by Breiting and Schnack (2010), a set of quality criteria should not be confused with performance indicators as it is an instrument which summarises learning for sustainability principles and must be constructed and accepted by all stakeholders of the school community.

The research project was initiated in 2002 and included two different phases. The first phase consisted of identifying implicit and explicit learning for sustainability criteria which was used to guide or support awards of Eco-Schools' projects. A publication comprising a comparative study of innovative practices in Europe and the Asia-Pacific

---

<sup>91</sup> ENSI is a decentralised network of national authorities and research institutions in Europe and the Asia-Pacific region, which works on collaborative projects on learning for sustainability issues. For more information about ENSI and its Quality Criteria, see: <http://www.ensi.org>

was also published in order to inform the second phase of this ambitious project (see Breiting et al., 2005)

The second phase of the project aimed to provide a deeper understanding of the theoretical framework and practice regarding whole-institution approaches to learning for sustainability at the school level through the definition of quality criteria. The quality criteria are a tool for schools, which underlines learning for sustainability principles and should be discussed and accepted by the different stakeholders involved in the schooling process. The quality criteria developed is a flexible instrument for 'quality enhancement,' rather than for 'quality control' and should be open to debate using a participative approach (2005, p. 9). This tool has been extensively adopted in various countries (see, for example, Mulà & Junyent i Pubill, 2008) and translated into many different languages.

This review has identified the following limitations of the project:

- The quality criteria are considered to be a set of guidelines on how to approach learning for sustainability at the school level. Thus, reporting mechanisms are difficult to develop as schools can decide what criteria to use or develop their own quality criteria.
  - No information is given to guide schools in collecting data or involving stakeholders in the development or adjustment of quality criteria.
- *ESDInds Project*

I was also interested to showcase a recent indicator experience called the ESDInds Project.<sup>92</sup> This initiative was a two-year collaborative research project, from January 2009 to January 2011, supported by the European Commission. Various partners and stakeholders were involved in this project. The academic partners were the University of Brighton (UK) and Charles University (Czech Republic). The civil society partners were

---

<sup>92</sup> For more information about the ESDInds Project, see: <http://www.esdinds.eu/>



the Earth Charter initiative (Costa Rica), the Alliance of Religions and Conservation (UK), the European Baha'i Business Forum (France) and the People's Theatre (Germany).

This project is innovative in the field as it tried to identify indicators and assessment tools for civil society organisations in the area of values-based learning for sustainability.<sup>93</sup> These indicators were designed for use at the project level, overlapping with organisational values and those of the communities served (Podger et al., 2010). The indicators proposed measure trust, integrity, justice, empowerment, unity in diversity, and care and respect for the community of life in businesses and civil society organisations. Project coordinators acknowledge that the initiative helped organisations to better understand their institutional values and identify indicators which include those values.

The following limitations and challenges have been identified by this review:

- The duration of the project was too short to deeply analyse the impact of the indicators defined and to involve more stakeholders in the implementation process.
  - Little research exists on the co-construction of indicators between academics and society.
  - Civil society organisations need to see the value of this research to fully engage in developing and testing indicators.
  - Capacity building is needed in order to assist organisations to engage fully in defining indicators in this area.
- *Initiatives at national levels*

A diversity of national indicator initiatives has emerged since the arrival of the UN DESD (Hák et al., 2007; Reid et al., 2006; Wals, 2009). Examples which have tried to define indicators to track progress of learning for sustainability processes include the Australian initiative to develop a national approach to monitoring, assessment and reporting on

---

<sup>93</sup> It is important to note that another key initiative on assessing values regarding learning for sustainability which I have not showcased in this section is the Earth Charter Ethics-Based Assessment Tool (AtKisson et al., 2008). For more information about this project, see: <http://www.earthcharterinaction.org/invent/images/uploads/EC-Assess.pdf>.

the UN DESD (Tilbury & Janousek, 2006); a UK sustainability indicator<sup>94</sup> which was intended to be included in the monitoring framework for the UK sustainability strategy (Defra, 2010) (see section 4.3.2); the development of learning for sustainability indicators to monitor the German DESD implementation strategy (National Committee for the UN DESD, 2004); and, the Outcome Mapping for Monitoring and Evaluation in Kenya, an evaluation methodology to plan, monitor and assess the contribution of learning for sustainability programmes and initiatives during the UN DESD (NEMA, 2008). My review does not go into much detail on these frameworks as they have not informed the development of the indicators which my research proposes.

#### **4.4.2 Types of learning for sustainability indicators**

Rode and Michelsen (2008) state that learning for sustainability indicators should not only show the status quo, but also create opportunities for innovations to be constantly monitored and created. Vare (2006) points out that the challenge is to develop learning indicators which encourage critical reflection on educational practice, rather than focusing on single targets. Key authors have also identified the need for the exploration of indicators which can provide information on the complex process of education and learning and offer possibilities for research and learning in practice (van Raaij, 2007). The development of these types of indicators, however, requires a paradigm shift in the ways assessment tools in the area of learning for sustainability have been developed (see figure 4.1).

First, it involves moving from the technical approaches used to define sustainability indicators to a more critical, participative, subjective and qualitative approach which allows the assessment of quality processes in education and learning to be ascertained (Estrella, 2000; Shumba, 2008). Second, it involves challenging frameworks which assess sustainability education, rather than learning for sustainability activities. Sustainability education is associated with education *about* and *in* sustainability. It refers to educational processes which are content or knowledge-based (Sterling, 2001) and approaches which consist of providing opportunities to learners to have direct

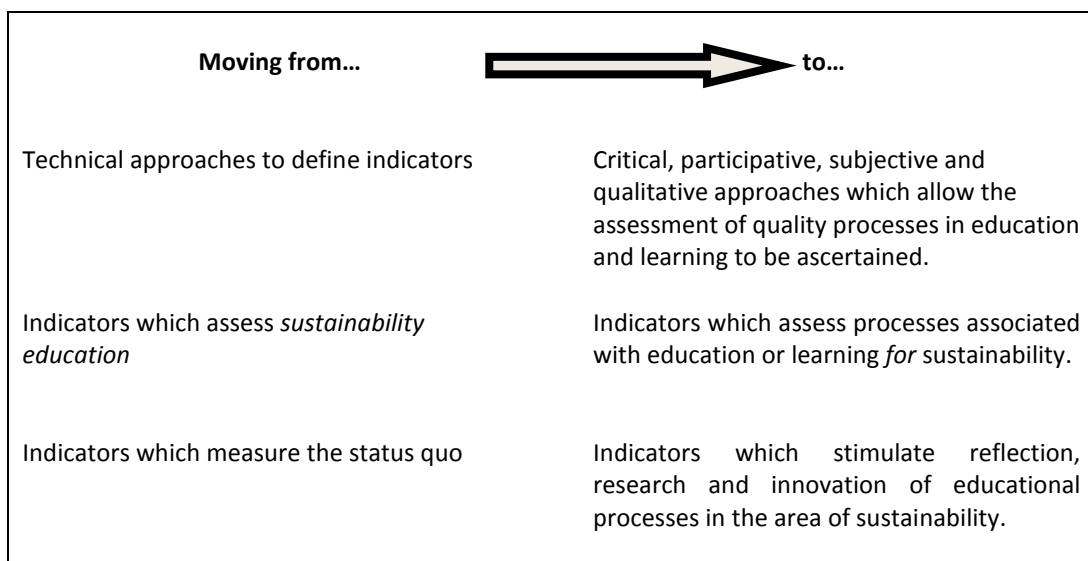
---

<sup>94</sup> Please refer to section 4.3.2 of this chapter for more information about the UK sustainability education indicator.

experience in relation to sustainability issues (Tilbury & Cooke, 2005). Instead, education or learning *for* sustainability is a transformative educational process which focuses on the quality of learning and on equipping learners with the necessary skills to take action for sustainability (Fien, 1993; Fien & Maclean, 2000; Sterling, 2001, 2010; Tilbury, 2011b; Tilbury & Wortman, 2004; Wals, 2010a, 2010b). Finally, it requires the development of indicators which provide baseline information, but also which enhance reflection, innovative practices and stimulate research in learning for sustainability.

This paradigm shift, illustrated in figure 4.1, is important to understand in order to construct indicators which can assess the quality and transformative processes associated with social learning for sustainability.

**Figure 4.1 Learning for sustainability indicators: shifting the paradigm**



The paradigm shift reinforces the need for exploring alternatives to the types of indicators which stakeholders have been usually exposed to (Tilbury & Janousek, 2006). This is an important issue that my research takes into consideration in order to construct social learning indicators. The majority of indicator frameworks described in the previous section have primarily developed baseline and context indicators to identify the overall status and assess the structures in place which support learning for sustainability (see table 4.1). My research acknowledges that these indicators can be useful as they provide key opportunities to identify future targets and define indicators

to measure the impact of social learning for sustainability initiatives. Data collection and reporting mechanisms tend to be simple as most of the information required by these indicators is usually available (UNECE, 2005b). However, restricting the assessment exercise to the definition of these types of indicators can result on a superficial understanding of social learning for sustainability. The development of social learning indicators should emphasise the need to assess the quality of learning or outcomes of change processes resulting from social learning efforts.

Table 4.1 identifies various types of indicators which can assist in providing a holistic assessment of social learning for sustainability processes. I have grouped various types of indicators identified in the literature and highlight key observations on how they can inform the development of social learning for sustainability indicators in higher education.

**Table 4.1 Types of (social) learning for sustainability indicators in higher education**

Indicator Type		Function	Key observations
Status	Baseline	To identify the status of the overall picture of social learning for sustainability in higher education institutions.	<ul style="list-style-type: none"> <li>- The advantage of this type of indicator is that it enables the identification of the overall status of social learning for sustainability in higher education.</li> <li>- It provides interesting information to start defining institutional goals in the area of social learning for sustainability or develop impact indicators.</li> </ul>
Facilitative	Context or checklist	To identify the existence of support systems to promote social learning in the area of sustainability in higher education.	<ul style="list-style-type: none"> <li>- This type of indicator is useful to identify how social learning for sustainability is supported in a higher education institution. It enables the identification of whether institutional efforts are helping to enhance the social learning experience on campus.</li> <li>- The advantage of using this type of indicator is that the information is usually easier to collect and enables policy-makers to assess progress in simple figures.</li> </ul>

	Process or input	To identify the existence of social learning processes and activities taking place in universities.	<ul style="list-style-type: none"> <li>- This type of indicator is useful to capture the opportunities which institutions are creating to engage staff in social learning for sustainability. It gives interesting information on what types of activities are encouraged.</li> </ul>
	Learning	To promote learning and reflection on social learning for sustainability.	<ul style="list-style-type: none"> <li>- Although this type of indicator is not the most commonly used in indicator frameworks, it is the one which is more aligned to the learning for sustainability paradigm.</li> <li>- It captures the quality of sustainability learning and skills built during social learning processes. It stimulates learning through the reporting process and data collection. It encourages research and best practice.</li> </ul>
Effect	Output	To identify resources and materials in the area of social learning which are available in higher education.	<ul style="list-style-type: none"> <li>- This type of indicator is valuable as it captures the existence of supporting material and products which help staff or the institution to facilitate social learning processes for sustainability or build competences in this area.</li> </ul>
	Outcome	To identify how staff has shifted sustainability thinking and actions through participating in social learning processes.	<ul style="list-style-type: none"> <li>- This indicator is directly related to the research questions posed by my research as it tries to identify if social learning for sustainability has assisted staff in acquiring new knowledge and skills in the area of sustainability.</li> </ul>
	Impact	To assess outcomes related to cultural changes or improvements that result from social learning for sustainability efforts.	<ul style="list-style-type: none"> <li>- This indicator is also directly related to my research questions as it tries to identify whether social learning processes are influencing institutional cultures for sustainability.</li> <li>- This indicator enables assessment of whether social learning can facilitate institutional change for sustainability.</li> </ul>
	Performance	To assess the way institutions have moved on regarding benchmarking or	<ul style="list-style-type: none"> <li>- This indicator is useful as it can help institutions assess their overall contribution in the area of social learning for sustainability and learn from other experiences in the sector.</li> </ul>

		ranking tables.	
Communication	Headline	To communicate change in social learning for sustainability policy related efforts to the institutional community and wider public.	<ul style="list-style-type: none"> <li>- Headline indicators assist institutions to explore and understand change.</li> <li>- This type of indicator is important as it offers information which can be used to establishing new directions and targets.</li> </ul>
	Aggregate	To communicate change associated with the state of play of social learning for sustainability in higher education.	<ul style="list-style-type: none"> <li>- The value of this type of indicator is that it summarises a complex array of information in a single indicator.</li> <li>- This indicator is not useful to assess social learning for sustainability as it tries to reduce the important complexity of this process.</li> </ul>

Sourced and adapted from UNECE (2005b), Tilbury and Janousek (2006), Tilbury et al. (2007)

## 4.5 BENCHMARKING INDICATORS IN HIGHER EDUCATION

### 4.5.1 Higher education engagement in the use of learning for sustainability indicators

The increasing engagement of higher education institutions in sustainability is reflected in the growing number of universities involved in assessing their contribution to sustainability through self-assessment and monitoring and evaluation tools, as well as engagement in national and international benchmarking initiatives which encourage and guide universities in improving their sustainability performance (Glover et al., 2011; Lozano, 2011; Rauch & Newman, 2009; Shriberg, 2002). In North America, for example, in 2010, 264 institutions registered with the Sustainability Tracking, Assessment and Rating System (STARS)<sup>95</sup> of which 118 institutions achieved a STARS rating. In the UK,

<sup>95</sup> STARS is a benchmarking framework developed for North American institutions. Please refer to section 4.5.2 for more information about this initiative.

138 higher education institutions participated in the 2011 People&Planet Green League<sup>96</sup> of which 122 received a first, second or third class award.

In general terms, benchmarking can be defined as a learning process which enables higher education institutions to compare their inputs, processes and/or outputs in order to identify their comparative strengths and weaknesses as a basis for self-improvement (Jackson, 2001). Benchmarking offers higher education institutions a platform to reflect on their practice and performance and implement changes to improve them. Schofield (1998), however, identifies three types of benchmarking definitions in the literature. The first is a practical definition which associates benchmarking with a self-improvement tool for organisations which allows comparison with other institutions, identifies weaknesses and strengths, and improves performance through best practice. The second is a participative definition emphasising the role of benchmarking as a participative and collaborative approach to monitoring and evaluation of processes with the aim of improving practices. Finally, the third definition refers to the ambitious process of comparing institutions across the globe to take action and improve internal processes.

As Room (2005) identifies, mechanical and positivist approaches to benchmarking with a focus on checklist indicators cannot assist universities in understanding the real value of an assessment exercise which should be centred on improving quality of processes and bringing about innovation in learning. Initiatives such as the Universities that Count (UtC) in the UK suggest that benchmarking mechanisms should be accompanied by 'bench-learning' processes which encourage the exchange of experiences and stories of change towards sustainability amongst higher education institutions (UtC, 2010).

My doctoral thesis is interested in analysing the ways social learning indicators can be introduced in self-assessment tools as well as benchmarking and ranking frameworks. The following sub-section provides a review of learning for sustainability benchmarking and rating systems which have incorporated learning for sustainability indicators. This

---

<sup>96</sup> The People & Planet Green League is an independent league table showing the environmental and ethical performance of UK higher education institutions.

review is important to guide the development of the indicators which my research proposes.

#### **4.5.2 Learning for sustainability benchmarking and rankings: A review of experiences**

Specific benchmarking and ranking initiatives have recently been developed which try to assess sustainability performance in higher education. In the UK, experiences in this area include the Green Impact<sup>97</sup> (universities' internal benchmarking), EcoCampus,<sup>98</sup> Sound Impact Awards<sup>99</sup> (only for Students' Unions) and the Higher Education Environmental Performance Improvement100 (HEEPI). The methodology of some of these initiatives has been criticised for dismissing important factors which contribute to an institution's sustainability. For example, many of these experiences focus on the institutions' carbon footprint and do not promote the improvement of sustainability teaching and learning processes.

In this sub-section, I specifically review five international benchmarking experiences<sup>101</sup> which have integrated indicators or criteria associated with learning aspects of sustainability. It is important to note that although the initiatives showcased below tend

---

<sup>97</sup> Green Impact is project run by the Environmental Association for Universities and Colleges (EAUC) which consists of an environmental accreditation scheme with an awards element designed for university departments. University staff take part and can achieve a working towards accreditation, Bronze, Silver or Gold standard for making their workplaces greener. For more information, see: [http://www.eauc.org.uk/green\\_impact](http://www.eauc.org.uk/green_impact)

<sup>98</sup> EcoCampus is a national Environmental Management System (EMS) and award scheme for the higher education sector. The scheme allows universities to be recognised for addressing key issues of environmental sustainability. For more information, see: <http://www.eauc.org.uk/ecocampus>

<sup>99</sup> Managed and run by the National Union of Students trading arm, NUS Services, the Sound Impact Awards are designed to encourage, reward and celebrate best environmental practice within Students' Unions in the UK. For more information, see: [http://www.eauc.org.uk/sound\\_impact\\_awards](http://www.eauc.org.uk/sound_impact_awards)

<sup>100</sup> HEEPI aims to improve the environmental performance of universities and colleges by developing environmental benchmarking within further and higher education. It runs events to share best practice, builds networks and provides an information resource. For more information, see: <http://www.heepi.org.uk/>

<sup>101</sup> In this review, I have not included international auditing frameworks such as the Auditing Instrument for Sustainability in Higher Education (AISHE) (see Roorda, 2001) or national assessment projects such as the Spanish systems of indicators to monitor the sustainability performance of Spanish higher education institutions (Benayas & Alba, 2010).



to acknowledge the use of education for sustainability indicators, the reality is that they primarily assess sustainability education.<sup>102</sup> Therefore, they do not assess the transformative processes associated with education or learning for sustainability in which my research is engaged. Although some frameworks have included indicators which assess informal sustainability learning opportunities provided to students, all the initiatives have overlooked the role of social learning in the attainment of sustainability. My research seeks to close this gap proposing indicators which can help institutions in order to support social learning for sustainability.

Appendix 2 summarises the information detailed below, reflects on the indicators defined by each framework and outlines the values and limitations of each framework.

- *Universities that Count (UtC) (UK)*

UtC<sup>103</sup> is a benchmarking and performance improvement tool in the area of environmental and corporate social responsibility for higher education which was put in place for the first time in 2008 in the UK. Participating universities capture data and results every year on a series of issues regarding detailed indexes in order to develop a database on the overall sector performance. Finally, results are collated and analysed in a UtC annual report which is released to the sector (see UtC, 2010). I have selected this initiative as one of its assessment sections, the Teaching, Learning, Research and Knowledge Exchange (TLR & KE) has, for the first time in the UK, developed benchmarking indicators of sustainability education. The annual report 2009/2010 acknowledges that this area is seen as the most significant in terms of the indirect impact that universities have regarding sustainability.

The TLR & KE question set of the UtC survey provides an opportunity to benchmark universities against others in the area of sustainability education. In 2008, the survey included a series of questions/indicators related to the integration of sustainability

---

<sup>102</sup> Please refer to section 4.4.3 to understand the difference between sustainability education and learning for sustainability.

<sup>103</sup> For more information on the UtC initiatives see: <http://www.eauc.org.uk/utc>. Please note that, in November 2011, UtC will change its name to Learning in Future Environments (LiFE). See: <http://www.thelifeindex.org.uk/>

education processes. In the following years 2009-2010, with the aim of providing a greater opportunity to improve 'bench-learning' processes within the UtC experience, a group of experts in the area of learning for sustainability assisted in the definition of more inclusive questions regarding TLR & KE. A total of 27 universities selected to be assessed in the area of TLR & KE. The questions included were clustered in six different areas:<sup>104</sup>

- (i) The university's commitment to sustainability: Is sustainability education embedded in the formal curriculum?
- (ii) The current state of play: Has the university assessed or scoped out its sustainability education in the curriculum?
- (iii) Action planning: Has the university started to plan how to increase or improve sustainability education opportunities?
- (iv) Sharing success with colleagues and seeing the bigger picture: Does the university have mechanisms in place to help communicate where and how progress in this area is being made?
- (v) Quality of information: Has the university found ways to ensure that its sustainability education work is of a high standard and the information collected in this area is reliable?
- (vi) Improvement Cycle: Has the university found an indicator to measure the success and gauge performance over time?

Some of the limitations and challenges of this initiative are the following:

- The reporting template is complex and difficult to understand.
- Questions and indicators defined only assess sustainability education in the formal curriculum. Some questions of UtC do not apply to small universities or universities which have just started the process of embedding learning for sustainability across the institution.

---

<sup>104</sup> Please refer to appendix 2 to view examples of questions asked within these six areas of assessment.

- Some questions appear biased towards more traditional institutions which tend to operate with more autonomous academic strategies at departmental level, whereas newer universities tend to be monitored against central strategies.
  - Although evidence for each question needs to be provided, it is not clear how the documentation submitted leads institutions to engage in a transformation process towards sustainability. For example, having an education for sustainability strategy is the first step in outlining the commitment of the institution to learning for sustainability. However, it is not clear how this strategy is enacted in a day-to-day basis at the institution.
- *People&Planet Green League*

The People&Planet Green Table<sup>105</sup> is an independent league table which ranks the environmental and ethical performance of UK higher education institutions. The methodology underpinning this framework consists of looking, on the one hand, at the universities' commitment to environmental systemic improvement and performance; and, on the other hand, at how institutions are actually performing on the ground in comparison to other institutions (see People&Planet, 2011). This initiative was implemented in 2007. However, not until 2011 it integrated sustainability education indicators.

Various indicators have been defined in two different areas. The first refers to management and policy criteria and includes indicators related to: publically available environmental policy; environmental management staff; environmental auditing and management systems; ethical investment; carbon management; ethical procurement and fairtrade; sustainable food; staff and student engagement; and, curriculum. The second area refers to performance criteria and includes indicators related to: energy sources; waste; carbon reduction; and, water. I will not extend on describing the different indicators as, in table 8.1 (chapter 8, section 8.2), I have summarised the context of the case studies selected for my research using the People&Planet indicators defined in the area of management and policy criteria.

---

<sup>105</sup> See: <http://peopleandplanet.org/greenleague>

The value of the People&Planet Green League was acknowledged by the World Wide Fund (WWF) in 2007, which awarded this initiative with a British Environment and Media Award (BEMA)<sup>106</sup> for 'Best Campaign.' It was recognised that the Green League was a powerful mechanism for raising awareness of environmental issues and challenging universities' senior managers to engage in the sustainability agenda.

Some of the limitations and challenges of this initiative are the following:

- The reporting template is complex and time consuming.
- Initially, the methodology was criticised for not incorporating educational and research issues associated with sustainability. However, People&Planet acknowledged the need for expanding its indicators. As a result, in 2011 it has incorporated indicators of sustainability education.
- The criteria used for marking institutions are limited. Improvement in this area seems to be required.
- *Sustainability Tracking Assessment and Ranking System (STARS) (United States and Canada)*

I have selected the STARS benchmarking tool because, just as the UtC, it provides an interesting framework in which sustainability education indicators are included.

In 2006, the Higher Education Associations Sustainability Consortium (HEASC)<sup>107</sup> called for the need of a campus sustainability rating system to assess universities in this area. In the following years, the Association for the Advancement of Sustainability in Higher Education (AASHE) gathered information and feedback from key stakeholders to draft the first sustainability benchmarking tool for higher education institutions in the USA and Canada, STARS 0.4, which was released in 2007. Experts in sustainability in higher

---

<sup>106</sup> Please refer to: [http://www.wwf.org.uk/what\\_we\\_do/about\\_us/all\\_about\\_wwf/bemas.cfm](http://www.wwf.org.uk/what_we_do/about_us/all_about_wwf/bemas.cfm), for more information about WWF BEMAs.

<sup>107</sup> The HEASC is an informal network of higher education associations with a commitment to sustainability. See: <http://www2.aashe.org/heasc/index.php>, for more information about this association.

education provided critical feedback on this draft which helped the organisation to improve the version and conduct a pilot in 2008 which involved nearly 70 colleges and universities. In the meantime, AASHE released a second draft, STARS 0.5, incorporating suggestions and feedback from stakeholders. The final version of the benchmarking tool, STARS 1.0,<sup>108</sup> is currently being used by universities and colleges in North America and aims to inspire, stimulate and create conversations about the mechanisms to measure and track progress of sustainability and sustainability education in higher education (see AASHE, 2010).

STARS 1.0 looks at three core operations at higher education level: (i) curriculum and research; (ii) campus operations; and, (iii) planning and institutional capacity. STARS understands the value of providing sustainability learning experiences within the informal and social context of higher education institutions. It has introduced an area of co-curricular education which looks at the learning opportunities offered to students outside the formal curriculum. Many opportunities to include some of the social learning indicators which my thesis proposes exist within this framework.

The credits defined in STARS 1.0 have been included for their ability to lead to improved environmental, social and economic performance. Thus, they focus on performance rather than strategy. However, a series of strategy credits have also been included as they can provide qualitative information about the progress of embedding sustainability across institutions. The impact of each indicator is also reflected in the development of the initiative. Two types of indicators have been defined regarding the impact that they have in institutions (tier one credits and tier two credits).

The engagement of more than 250 institutions enables the creation of an extensive database on the overall sector performance in the area of sustainability and creates greater opportunities to share best practice amongst institutions. STARS has defined indicators which are flexible and open and are appropriate for most types of institutions (new and traditional institutions). Credits which do not apply to an institution are not

---

<sup>108</sup> For more information about AASHE and STARS 1.0, see: <http://www.aashe.org/>

counted against the overall score. This process allows small institutions or institutions which have just started to embed sustainability processes to participate in meaningful ways in this initiative. STARS 1.0 rating system also includes a bronze, silver, gold, platinum and STARS Reporter awards. The latter is for those organisations that seek to track the progress of sustainability using STARS, but which are not interested in participating in the public ranking system.

The limitations presented by this framework which my review has identified are the following:

- The scoring and rating system is based on a subjective methodology which is under current improvement.
- STARS has developed quite a complex and time consuming template. Although it looks at many areas regarding sustainability, collecting data and reporting the results can be challenging for some institutions.
- Due to its focus on assessing performance, the template is quite technical with fewer opportunities to provide qualitative data or explain stories of transformation.
- *Alternative University Appraisal (AUA) for Education for Sustainable Development (Asia-Pacific)*

The AUA<sup>109</sup> has been selected because it is a new project in the Asia-Pacific region with the aim of improving benchmarking and ranking tools in the higher education section and stresses the role of learning in moving towards sustainability. Although the AUA model is still being developed and improved, it provides another approach, based on assessing thematic areas of sustainability education, which is important to review.

The AUA was launched in 2009 as a collaborative project of the United Nations University (UNU) Institute of Advanced Studies (IAS) ProSPER.Net<sup>110</sup> Alliance. It is led by

---

<sup>109</sup> For more information about AUA, visit: <http://sustain.hokudai.ac.jp/aua>

<sup>110</sup> For more information about UNU IAS and ProSPER.net, see: <http://www.ias.unu.edu>

the Hokkaido University (Japan) in close collaboration with the Asian Institute of Technology (AIT, Thailand), TERI University (India), Universito Sains Malaysia (USM), Yonsei University (Korea) and UNU-IAS. A total of 19 universities in the Asia-Pacific region are currently engaged in this new benchmarking initiative.

The main goal of AUA is to support higher education institutions to plan sustainability education activities and to create a learning community where participating universities can identify their strengths and weaknesses regarding this area of work and share best practice and knowledge. The core mission is to engage universities in sustainability teaching, learning and research as well as to showcase the quality and impact of these activities with the provision of benchmarking tools (AUA/International Cooperation Initiative, 2010). A first draft of the AUA model was developed in 2009-2010 after consultation with key stakeholders in learning for sustainability in various conferences, meetings and consultations. A development of an AUA peer consultation model was undertaken in 2010-2011 which consisted of engaging universities in the region in completing the 'self-awareness questions' identified to benchmark institutions and improve the integration of learning for sustainability issues with the help of the Appraisal Committee (see AUA/International Cooperation Initiative, 2010).

The AUA model contains 25 'self-awareness questions' (sustainability education indicators) which are both quantitative and qualitative. Institutions firstly select the sustainability education theme which they seek to improve within the organisations. The suggested themes are those identified by the UN DESD.<sup>111</sup> Institutions can also create their own field or theme of sustainability education to be assessed (for example, they could select social learning). Then, institutions complete the questionnaire which contains questions related to (i) governance; (ii) education; (iii) research and consultancy; and (iv) outreach and transformation. Some of the questions regarding these dimensions of assessment relate to the theme selected or to the broader process of embedding sustainability education in higher education. My review has identified the following critical issues arising from the AUA approach:

---

<sup>111</sup> The sustainability themes identified by the UN DESD are: gender equality, health promotion, the environment, cultural diversity, rural development, peace, human security, sustainable development, sustainable consumption and sustainable urbanisation.

- The AUA is currently being reviewed and improved. As not many experiences exist in benchmarking universities in the area of sustainability education, this process is slow and challenging.
- Although the thematic approach provides flexibility on what institutions seek to assess, the benchmarking and comparison exercise is complex and difficult as each institution selects different thematic areas.
- Because of the scale of this initiative, not all countries and universities have the same understanding of the indicators included in the AUA model.

- *Sustainable Universities (Austria)*

Sustainable Universities<sup>112</sup> is an Austrian nationwide learning process among higher education institutions through a sustainability award contest held every two years. Although the documentation available is clear about defining this experience as a benchmarking tool, in my view, it is an initiative which celebrates and rewards the success of the implementation of certain projects. For this reason, I have decided to include a brief description about this initiative in this section, but it is not included in the table of benchmarking initiatives in appendix 2.

Sustainable Universities was developed by the FORUM Umweltbildung<sup>113</sup> and aims to strengthen and integrate sustainability in Austrian universities. The award is given for eight different action areas: (i) administration and management; (ii) curriculum and instruction; (iii) research; (iv) structural implementation; (v) communication and decision-making; (vi) student initiatives; (vii) regional integration; and, (viii) European (international) integration. Each of these categories comprises a series of key questions

---

<sup>112</sup> For more information about the Sustainable Universities initiatives, see: <http://www.umweltbildung.at/cms/download/1495.pdf>

<sup>113</sup> FORUM Umweltbildung is an initiative of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management and the Austrian Federal Ministry for Education, the Arts and Culture. It provides educational support via publications, websites, events such as conferences and workshops, innovative flagship projects, educational networks, educational funds and personal contact. See: <http://www.umweltbildung.at/cgi-bin/cms/af.pl?ref=en>



or indicators which help participants locate their initiatives within several aspects. Because different types of participants (institutions, departments, students, staff, etc.) can participate in the awards, it is difficult to benchmark with the same criteria. In addition, the awards are given to single projects rather than looking at the whole process of embedding sustainability education in higher education.

#### **4.6 SUMMARY**

This chapter has clarified what is usually understood by the term ‘indicator’ and how these tools can provide important information to assess the contribution of higher education institutions to sustainability. I have reviewed UK and international sustainability indicator systems, learning for sustainability frameworks and benchmarking tools to assess learning for sustainability within the higher education sector. I have also described the different types of indicators which are valuable to monitor social learning for sustainability at the university level. This chapter is important to inform the development of social learning for sustainability indicators.<sup>114</sup>

Below, I summarise the key lessons drawn from this chapter:

- 1) Indicators are useful assessment tools to gauge sustainability progress and improve decision-making processes. However, they can also indicate wrong directions if data collection methods and reporting mechanisms have not been identified, or guidelines for interpretations have not been provided.
- 2) Educational indicators developed by sustainability indicator frameworks are development indicators. Although they provide information on the status of education systems, they do not provide genuine indications about the quality of learning processes associated with sustainability.
- 3) The use of indicators to measure learning for sustainability processes has created interesting debates. Whereas some key authors acknowledge their value in bringing about change, other scholars emphasise their reductionist approach. The reality is

---

<sup>114</sup> Please refer to chapter 9, to view the indicator framework which my doctoral thesis proposes as a key research outcome.

that most of the indicator frameworks which have tried to assess learning for sustainability have used the technical approaches underpinning sustainability indicators. This perspective does not align with the transformative paradigm associated with learning for sustainability.

- 4) It is clear that despite the criticisms, learning for sustainability indicators are gaining importance over time. Sophisticated and challenging indicator projects have been created in the last few years. This chapter has highlighted and reviewed the following international learning for sustainability indicator initiatives: (i) UNECE ESD indicator framework; (ii) UNESCO Asia-Pacific UN DESD Indicators Project; (iii) UNESCO UN DESD GMEF; (iv) Nordic Council of Ministers initiative in ESD indicators; (v) ENSI Quality Criteria for Schools; (vi) ESDInds Project; and, (vii) various initiatives at national levels.
- 5) Most of these frameworks have focused on describing the contextual factors which support sustainability education, rather than learning for sustainability. They have identified education which contributes to sustainability, but they have been unable to assess the critical approach underpinning learning for sustainability.
- 6) It has been acknowledged by key experts that a paradigm shift is needed to construct indicators which can assess genuine learning for sustainability processes. This implies: (i) moving from the technical approaches used to define sustainability indicators to more critical, participative, subjective and qualitative perspectives which allow the assessment of quality processes related to learning for sustainability; (ii) moving from defining indicators which assess sustainability education to develop indicators which measure progress in learning for sustainability; and, (iii) moving from defining indicators which only assess the status quo to indicators which stimulate reflection, research and innovation in the area of learning for sustainability.
- 7) The chapter has stressed that this paradigm shift also requires exploring alternatives to the types of indicators which stakeholders and institutions have most often been exposed to. The chapter has described various different indicators types which can

inform the development of social learning for sustainability indicators. These are the following:

- *Status indicators* (baseline indicators) – to help institutions understand the baseline states of social learning for sustainability;
- *Facilitative indicators* (context or checklist, process or input, and learning indicators) – to provide information about the structures in place to support social learning for sustainability, identify the existence of learning opportunities and stimulate reflection and learning;
- *Effect indicators* (output, outcome, impact and performance indicators) – to identify resources and materials in place, assess results and consequences of social learning for sustainability efforts and identify the ways institutions have moved on regarding benchmarking tables; and, finally,
- *Communication indicators* (headline and aggregate indicators) – to assist in communicating social learning for sustainability efforts to the institutional community and wider public.

8) The chapter moves on to review five benchmarking initiatives for higher education which include learning for sustainability indicators. These include: UtC, People&Planet Green League; STARS, AUA; and, the Austrian Sustainable Universities Awards.

9) I conclude that these frameworks have primarily engaged in assessing sustainability education rather than learning for sustainability. I also stress that they have

verlooked the key role of social learning in sustainability. My research seeks to make a contribution in this area through proposing indicators of social learning.<sup>115</sup>

---

<sup>115</sup> Sustainability education is associated with education *about* and *in* sustainability. It refers to educational processes which are content or knowledge-based (Sterling, 2001) Education or learning *for* sustainability is a transformative educational process which focuses on the quality of learning and on equipping learners with the necessary skills to take action for sustainability (Fien, 1993; Fien & Maclean, 2000; Sterling, 2001, 2010; Tilbury, 2011b; Tilbury & Wortman, 2004; Wals, 2010a, 2010b).

## **PART II METHODOLOGY AND RESEARCH PROCESSES**

In this part, the methodological frames and lenses through which I have explored social learning for sustainability in higher education are firstly explored. The key philosophical assumptions and concepts of critical social research are unpacked. Special emphasis is given to Habermas's ideas and theory of communicative action which have assisted in conducting a collaborative research as well as building a grounded understanding of social learning for sustainability. Then, the research methods and techniques employed to collect and generate the data at the Universities of Gloucestershire, Bradford and Bristol are explained. I detail the core method of my thesis, collective memory-work, which was used to engage members of staff in each institution in reflecting on and writing their own experiences on social learning for sustainability. Issues related to data analysis, quality and validity are addressed as well as ethical considerations are highlighted. Finally, I report on the research design detailing the different research processes, stages and phases in which I engaged to explore social learning for sustainability in higher education. I describe in detail the challenges and limitations which had to be overcome throughout the research, and outline the lessons learned.

Part II contains the following chapters:

**CHAPTER 5      CRITICAL SOCIAL RESEARCH METHODOLOGY**

**CHAPTER 6      RESEARCH METHODS AND STRATEGIES FOR DATA COLLECTION AND  
ANALYSIS**

**CHAPTER 7      RESEARCH DESIGN, STAGES AND PROCESSES**

## CHAPTER 5 CRITICAL SOCIAL RESEARCH METHODOLOGY

### 5.1 INTRODUCTION

According to Creswell (2007), good research requires making explicit in the writing of the study the philosophical assumptions, worldviews, and frameworks about the phenomena under research, as well as acknowledging how these paradigms influence the research purpose, processes and product.

I have located my thesis within a critical social practice which is a multidisciplinary framework with the implicit goal of achieving human and social emancipation. On the one hand, critical social theory is underpinned by critical theory, which is usually associated with the Frankfurt School and its Institute for Social Research. However, its critical focus can be traced back through Hegelianism and Western Marxism (Calhoun & Karaganis, 2001; Giroux, 2003; Held, 1980; Rasmussen, 1999). According to Kincheloe and McLaren (2005) and Giroux (2003), critical theory is complex to describe because there is not a single shared definition amongst critical theorists; thus, there is always room for concordances and disagreements within their different approaches. In addition, it is continuously changing, developing and evolving. On the other hand, critical social theory is underpinned by social theory which entails a broader theoretical production than critical theory, including a wide range of social studies and theories. As Leonardo (2004) states, critical social research expands critical theory criticisms with more recent discourses such as postmodernism or cultural studies. In my thesis, I draw upon key ideas developed by critical theorists from the Institute for Social Research such as Horkheimer, Adorno, Habermas and Honneth, but I try to expand them using theories developed by later critical theorists who depart from the Frankfurt School such as Beck and Giddens. I also enrich theories of power and ideology introducing, amongst others, Foucault's postmodernist ideas (see 5.4.2).

In this chapter, I firstly outline how critical social theory can inform sustainability research in higher education. I then introduce the origins and backgrounds of this paradigm and describe the key features, concepts and theories which have informed my

research. I continue by outlining the philosophical assumptions and methodological principles of my inquiry. Finally, I delineate some of the critiques and the ways I have responded or addressed these through the research.

## **5.2 CRITICAL SOCIAL THEORY AND SUSTAINABILITY RESEARCH**

I have drawn upon critical social theory because I consider that its concepts and ideas are aligned to the notion of sustainability and to the principles of my collaborative research on social learning in higher education. First, critical social research and sustainability are both transformative political endeavours and seek critical emancipation in the struggle for a better world, and social and ecological justice (Fien & Hillcoat, 1996; Huckle, 1993; Kincheloe & McLaren, 2005; Robbottom & Hart, 1993). Sustainability finds its origins in environmental and social movements which sought to challenge social, environmental and economic systems in order to move to a world where social justice, environmental protection and quality of life existed. These ideas were later adopted in the 1970s through political discourses and agendas which popularised the term 'sustainable development' to the wider public. Sustainability is currently both a social and political goal as well as a basis for criticising and reinterpreting post-industrial societies and modernity. More importantly, sustainability has also become people's hope for human emancipation. In his doctoral thesis, Plant (2001, p. 79) states:

“Basing sustainable development on what is morally and politically right, technically possible, culturally appropriate and accountable for interests of present and future generations and the rest of the biophysical world, would allow for the renewal of Enlightenment principles.”

Second, critical social theory and sustainability examine and challenge power, authority, race, culture, the environment and other issues regarding social and ecological justice (Kaplan, 2003). Through critically analysing current societies and institutions, their social and economic systems, through identifying their contradictions and underlying operations, and exposing their power relationships and interests, it is possible to identify

how these systems work and what they could be like (Giroux, 2003; Kincheloe & McLaren, 2005).

Finally, critical social theory is aligned to sustainability as it involves people in social change (Kincheloe & McLaren, 2005). Sustainability engages actors in exploring their visions and aspirations for the future through critical and futures thinking. It involves them in sharing common goals and taking action to build more sustainable futures (Tilbury & Wortman, 2004).

Many scholars and sustainability institutes have used the critical approach to frame their research and studies. Notably, the Australian Research Institute in Education for Sustainability (ARIES) is leading this agenda through undertaking projects which challenge current paradigms and worldviews as well as facilitating change for sustainability. For example, a recent study on mainstreaming education for sustainability in teacher education in Australia (Ferreira et al., 2009) engaged a range of stakeholders and key agents of change within a system to all work simultaneously to bring about change. Framed within a critical social perspective, the implementation of the project resulted in: (i) increased capacities within the teacher education community; (ii) changes to teaching and learning approaches; (iii) improvements in networks within the teacher education system; and, (iv) engagement of relevant stakeholders to understand and support the change.

Another example is the PhD study developed by Babikwa (2004) in rural Uganda. Babikwa used participatory action research methodology to analyse how educational methods and pedagogies used in community-based environmental education programmes were empowering learners and communities to contribute to their sustainability challenges. This author unpacks and analyses the use of critical social theory and its application in a community context.

In my thesis, the use of critical social theory has been two-fold. On the one hand, I hoped it could provide a deeper understanding of the dynamics of social learning in higher education institutions by gaining insights into how staff experience social learning and institutional culture may (or not) influence or restrict these experiences. Critical social theory has been used to expose how issues related to power, participation,



culture, structure and agency in higher education enable or limit social learning and engagement regarding sustainability. On the other hand, critical social theory has been employed as a methodological frame to conduct a participative and collaborative research which challenged power structures likely to exist between the researcher and the researched. It has provided an opportunity to hear the voices of staff and share the research control with co-researchers. It has also assisted in examining the various assumptions of co-researchers and the biases of the researcher.

### **5.3 ORIGINS, BACKGROUND AND KEY THINKERS OF CRITICAL SOCIAL THEORY**

#### **5.3.1 The Frankfurt School**

As mentioned before, critical social theory finds its origins in the philosophical approaches of Hegel and Marx, which were then systematised by Horkheimer and the members of the Institute for Social Research in Frankfurt (Rasmussen, 1999). Departing significantly from the work and positions of the founders, the successors of the Institute, particularly Jürgen Habermas, have recently developed and redefined critical theory (Agger, 1991).

The Institute for Social Research was founded in 1923 in Frankfurt and was firstly directed by Carl Grünberg who oriented the Institute's work within a Marxist theoretical basis. The Institute started to shift its focus when Max Horkheimer took over the Institute's directorship in 1930. In his inaugural speech, Horkheimer highlighted three basic themes which would focus the Institute's research. According to Held (1980), firstly, Horkheimer pointed out the need for an interdisciplinary programme as a methodology of research in order to establish relationships between social philosophy and science; thus, developing a more complete and accurate theory and social theory. Second, he called for a rejection of orthodox Marxism and suggested working on the reconstruction of the meaning of Marxist ideas. Third, he emphasised the need for a social theory to explain the mechanisms by which societies are reproduced and changed.

As many authors state (Darder et al., 2003; Giroux, 2003; Kincheloe & McLaren, 2005), critical social theory needs to be understood within a particular historical context which

inevitably influenced its development. This includes the difficult conditions, inflation and unemployment after World War I, the rise of Western authoritarian systems and regimes, such as Stalinism in Russia and Nazism in Germany, the failure of the Marxist revolution, and the power of capitalism in strengthening economic and ideological dominations.

The task of the Frankfurt School shifted to explain why the socialist revolution predicted by Marx in the nineteenth century did not occur (Agger, 1991) and to reconstruct radically the meaning of social emancipation. As Giroux (2003) states, the theorists from the Frankfurt School considered that Marx failed to develop a theory of consciousness, believing that people's false consciousness could be exploited to keep capitalism as a prevailing system (Agger, 1991). Kincheloe and McLaren (2005) note that critical theorists confronted the Marxist orthodoxy offering the hope for possible emancipation and societal transformation. However, some years later in *Dialectic of Enlightenment* (1973), Horkheimer and Adorno expressed a strong pessimism about the idea of human emancipation (Calhoun & Karaganis, 2001).

In general terms, the work of the earlier critical theorists was driven by a commitment that theory and practice should seek to transform social injustices and oppressive conditions existing in the world (Darder et al., 2003). The earlier critical theorists concentrated their efforts in formulating critiques of rationality and instrumental reason, ideology, and political and cultural domination. Although second and third generation critical theorists (Honneth, 1999) consider that the founders of critical theory failed in reconstructing the Marxist theory and, to some extent, also failed in achieving a critical social theory (Harvey Brown & Goodman, 2001), some of their formulations still constitute important foundations to develop a critical theory of education (Giroux, 2003) and, thus, of learning for sustainability (Huckle, 1993; Plant, 2001). For example, my research understands that sustainability learning opportunities can be influenced by institutional structures, power relations, values and norms. In this regard, I have found it useful to critically analyse these areas developed by earlier critical theorists. It is important to me to unpack power structures which hinder the possibilities to enhance social learning and change within higher education itself.

As mentioned earlier, the reconstruction, redefinition and revitalisation of critical theory was led by the second generation critical theorists, especially by Jürgen Habermas. This author, like the earlier Frankfurt School theorists, sought to analyse the dynamics of a capitalist society and the rationality which underpinned it. However, he moved from the most recent pessimistic conclusions of Horkheimer and Adorno regarding the possibility of emancipation and social transformation (Scherer, 2009). For Habermas, recent developments in history accentuated the need for reformulating critical social theory. The twentieth century was characterised by a major number of developments and structural changes in socialist and late capitalist societies, which threatened the public field. These were the expansion of state intervention, instrumental reason and bureaucracy, supported by an increasingly organised capitalism (Held, 1980). In light of these events, Habermas, as his predecessors, is concerned with the rise of technocratic consciousness. However, according to Agger (1991), he attempts to shift critical social theory from the paradigm of consciousness to the paradigm of communication. Habermas (1987) affirms that rationalisation cannot be dealt with adequately within a conceptual framework based on consciousness. Instead, he reformulates rationality through his theory of communicative action. Alvesson and Deetz (1996) affirm that Habermas's communicative action is an essential feature of any social interaction taking place in society, social institutions and daily life. Yet, Habermas's theory seems to be able to inform the ways higher education institutions influence social learning and social interactions in the context of sustainability.

The third generation of the Frankfurt School is best represented by Axel Honneth. According to Anderson (2000), Honneth focuses on core themes for a critical research which define quite precisely the work of the third generation critical theorists. Honneth (1996b) states that the earlier critical social theorists and the second generation scholars failed in reconstructing a critical social theory because they neglected the role of conflict in the interaction of social groups. This is why his most prominent research focuses on analysing the struggle for recognition in understanding social groups and their relations (Anderson, 2000; Scherer, 2009). Another important theme that characterises the work from the third generation is the critique about the profound structures of personal experience - experiences of exclusion, disrespect and ethical infringements (Anderson, 2000; Scherer, 2009). Honneth's conceptualisations are fairly important to studying

higher education institutions as I consider that lived experiences of members of staff in this very specific cultural context are very valuable in analysing social learning in the area of sustainability.

My thesis considers that the theoretical and empirical legacy from the earlier critical theorists, especially regarding issues of power and domination and instrumental reason, are essential to understand the dynamics of higher education institutions and conduct sustainability research in these institutions. However, it has particularly focused on Habermas's theory of communicative action to advance issues regarding social learning and the enhancement of sustainability learning in higher education.<sup>116</sup>

### **5.3.2 Reflexivity, sustainability and modernity**

Departing from the tradition of the Frankfurt School, a new critical social theory has emerged in recent years focused on the reinterpretation of modernity through a new intellectual framework based on reflexivity and the project of 'reflexive modernisation.' This key work is underpinned by critical scholars such as Ulrich Beck and Anthony Giddens<sup>117</sup> and characterised by sociological theories based on structure and agency. The social theories of these two critical scholars are particularly useful to understand the sustainability movement and politics.

As explained by Delanty (1999), Beck describes the post-industrial society as a risk society; a society in which constant institutionalised risks arise from the advancements of science and technology. In today's modernity, science has dominated the social and nature systems, expanding the volume of risks as well as creating relationships of cause-effect which are incalculable. However, modernity and the risk society have opened new avenues and pathways for establishing key dialogues amongst social actors. Although modern society has increased the risks that individuals need to face and the choices that

---

<sup>116</sup> I further expand Habermasian theory and explain how it informed my critical research in section 5.5 of this chapter.

<sup>117</sup> Anthony Giddens is one of the few social theorists which have engaged in the climate change and sustainability debate. He has offered ways in how to analyse and promote climate change policy or politics for global warming (Giddens, 2006, 2010) and has participated in numerous national and international debates on these issues.

they must take, social agency has been provided with more powers of transformation in personal and political life. Because risk generates complex questions and uncertainty, it has induced high levels of reflexivity.

Beck's (1992) theory of the risk society involves a great discussion on the new political discourse of ecological issues which have replaced central themes of the political agenda such as 'social questions.' Beck engages in a sustainability-related discussion in which he expresses that the ecological question has to be related to social (or institutional) opportunities for action. Beck's theory of the risk society strongly emphasises the role of the status of knowledge, responsibility and sub-politics.

Anthony Giddens (1991; 1999; 2006) also advances the idea of 'reflexive modernisation' and sustainability through his theory of structuration and his analysis of key developmental trends and institutional features of post-industrial societies. The concepts of structuration and reflexive modernity share the reflexive and critical use of information and knowledge. In modern life or post-industrial societies, people constantly need to make sense and interpret the world and their experiences through an increasing amount of knowledge and information. The great expansion of knowledge and information has increased reflexivity and reflexively recombined structure and agency. As explained in chapter 3 (see 3.4.2), structuration is the process where agency and structure are combined and mutually constituted in social practices. As Delanty (1999) explains, the theory of structuration is particularly useful to set the basis for how agents construct an institutional system and how social action mediates institutions. This dialectic is important to analyse when exploring social learning processes in higher education as it assumes that social learning, interactions and practices can change institutional structures. At the same time, it also reinforces the possibility that institutional structures and culture could directly influence staff social practices in the area of sustainability within an institution. My research seeks to explore this potential dialectic dynamic.

## 5.4 KEY CONCEPTS OF CRITICAL SOCIAL THEORY

In this section, I explore the concepts of critique, theory, power relations and false consciousness and their implications for researching social learning and sustainability in higher education.<sup>118</sup>

### 5.4.1 Critique and theory

It is obvious that critical social theory focuses on two distinctive concepts: ‘critique’ and ‘theory.’ According to Calhoun and Karaganis (2001, p. 180), the notion of critique in critical social theory should be understood not simply as criticism, but as “a deep examination of the conditions under which any particular form of thinking could operate.” This concept of critique is linked to a concept of theory which should be recovered from the abstract philosophical tradition which failed to challenge the status quo. Theory and critique should be used as endeavours to achieve social change (Calhoun & Karaganis, 2001). According to Giroux (2003), the notion of theory should be first understood as an attempt to establish the relationships which exist in society between the particular and the whole, rejecting those approaches of theory which consist of arranging and classifying facts. Second, the notions of self-criticism, self-reflection and reflexivity are fundamental to critical social theory. Theory must acknowledge its own interests and must reflect critically on the historical developments and limitations of such interests in a certain historical and social context. Third, critical social theory is represented by its unmasking function. It analyses the relationships between appearance and essence. It uncovers the values and assumptions, and identifies the imperfections and contradictions of thought through critical thinking.

Understanding that social learning for sustainability can be influenced by, and influence other institutional processes and dynamics is essential to conduct my research. Thus, social learning needs to be understood within the complexity of processes, relationships and structures of higher education institution. To capture this complexity, I have employed a diversity of research methods in order to provide different information on

---

<sup>118</sup> Although reflexivity is also a key issue of critical social theory, I further explain this concept in the next chapter on research methods and strategies for data collection and analysis (see 6.5.1).

important issues such as participation structures and institutional cultures.<sup>119</sup> My research also explores social learning through understanding the historical context and developments of how higher education institutions have approached and implemented sustainability.<sup>120</sup> The ways in which these institutions have dealt with sustainability issues throughout time is important to identify how social learning is taking place and is supported.

#### **5.4.2 Power relations**

Critical social theory acknowledges and critiques the role of power as a process of social control and domination to individuals and social groups (Darder et al., 2003). In this research, I am interested in exploring what type of power relations in higher education institutions influence social learning and sustainability and how they operate within these institutions. I am also concerned about addressing the relations of power which tend to take place in research studies through collaborative research with members of staff in different higher education institutions. Finally, I also try to identify how social learning processes enhance staff power, as a positive attribute, to transform their own institutions towards sustainability.

As a starting point and in order to understand how power operates in higher education, I have used Lukes's (2005) three-dimensional views of power. Lukes summarises the fruitful and contested discussions around this dynamic (first and second-dimensional views of power) and extends them in his third-dimensional view of power.

According to Hayward (1998), the most productive debates around power were created when Dahl (1957, pp. 202-203) defined power as a relation where "A has power over B to the extent that he can get B to do something that B would not otherwise do." Dahl focused on the ways power can exclude the voice of participants in decision-making, thwarting the outcomes of this process to benefit the interests of the powerful. In his

---

<sup>119</sup> Please refer to chapter 6, section 6.3, for more information about the research methods which I have employed to collect data on social learning for sustainability in higher education.

<sup>120</sup> See chapter 8, section 8.2 and appendices 3, 4 and 5.

view, there are always winners (powerful) and losers (powerless) in the observable conflict which exists in political decision-making (Gaventa & Cornwall, 2001).

Bachrach and Baratz (1970) enhanced the debate around power through critiquing Dahl's definition (Hayward, 1998; Lukes, 2005). They claimed that the key issue of power is not that some voices are not equally taken into consideration. Power operates when the possibility of participation does not exist; thus, power also operates in the absence of conflict. In addition, power relations also take place not only when actors are taken out from the decision-making process, but also when key issues are not brought into discussion (Gaventa & Cornwall, 2001; Hayward, 1998).

Lukes (2005) recognises that Bachrach's and Baratz's (1970) view of power represents a valuable advance in the conceptualisation of power as it emphasises the influence that taking control over the agenda of politics can have in terms of exercising power. However, Lukes's third-dimensional view of power challenges the previous views stating that, either with the existence or absence of conflict, power can also shape the ways actors perceive their views, interests and desires (Hayward, 1998).

Barasa Atiti (2008), in his PhD study, employed Lukes's three dimensional view to identify and analyse power mechanisms and their impacts in facilitating or limiting organisational learning and sustainability in the National Museums of Kenya (NMK). He identified three types of power operating in this organisation which relates to Lukes's three dimensional framework on power analysis. These are (i) visible power (making and enforcing the NMK rules); (ii) hidden power (unwritten rules and practices); and, (iii) invisible power (shaping meaning, values and what is normal).

Table 5.1 below summarises the mechanisms or key strategies which my research has used to address power issues embedded in the research process and explore power relations at the institutional level.



**Table 5.1 Strategies to address and explore power issues throughout the research**

Dimensional views of power	Key strategies used in the research
First-dimensional view of power	<ul style="list-style-type: none"> <li>- The research gave voice to members of staff by providing them a space for dialogue and negotiation of meanings about social learning and sustainability.</li> <li>- Power issues and institutional contextual issues which influence the emergence of social learning were explored collaboratively with co-researchers.</li> <li>- The research process was shared with co-researchers and the findings were collectively constructed, agreed and validated with them.</li> </ul>
Second-dimensional view of power	<ul style="list-style-type: none"> <li>- Co-researchers were actively involved in outlining and modifying the research agenda of the different sessions organised.</li> <li>- Co-researchers had the opportunity to share their concerns regarding social learning for sustainability through writing and discussing their own stories within their institutions.</li> </ul>
Third dimensional view of power	<ul style="list-style-type: none"> <li>- The study sought to identify whether co-researchers' views were influenced by other co-researchers or staff perceptions. One-on-one meetings with participants helped me understand better individual values and assumptions.</li> </ul>

As Gaventa and Cornwall (2001) and Hayward (1998) state, Lukes's three-dimensional view of power has been criticised as it limits the understanding of power as repressive 'power-over' relations. However, power can also be understood as an inherent attribute of individuals, 'power-within.' Hence, it can also be seen as a fundamental element to create opportunities for social learning regarding sustainability in higher education.

Foucault (2000) understands power as a more relational and productive element in organisations such as higher education institutions. Rather than conceptualising power as a repressive process that an individual or a group exerts on other individuals or groups, Foucault focuses on the power that takes place through discourse, institutions and practices and creates boundaries for social action (Gaventa & Cornwall, 2001).

My thesis assumes that social learning processes can change thinking and action of staff in higher education institutions. It is a learning process in which staff can create their own responses to sustainability and take responsibility for the actions taken forward.

Foucault's ideas are important in my research as specific institutional structures, norms and bureaucratic processes can create boundaries for the emergence of social learning processes and, thus, for social action.

Building on Foucault's theory, Hayward (1998, p. 2) challenges Lukes's notion of power reconceptualising it as a "network of social boundaries that hinder and enable action for all actors." In my thesis, social boundaries include institutional norms, rules, strategies and social exclusions. These boundaries have been examined using various research methods and techniques in different higher education institutions.

### **5.4.3 Ideology and false consciousness**

As defined by Augustinus (1999), Marxist ideas refer to ideology as the means by which power, dominance and control are preserved and sealed in society. One of his major contributions was his critique of the illusory role of ideology. He points to all forms of consciousness such as ideology influenced by material and social conditions. He relates ideology to mystifying knowledge which is used to embody ideas which finally try to justify social injustices.

'False consciousness' is a term derived from Marxist theory of social class. However, it seems that it was Engels who firstly used it to attribute the failure of Marxist predictions about the end of capitalism to the acceptance of capitalist relations and values by the working class. In other words, capitalism had not seen its end because the working class had created mental structures and representations of the capitalist world which hindered them from taking action to alter the realities of subordination and exploitation in which they were immersed.

Ideology theories were further developed by other later theorists such as Mannheim. As stated by Ricoeur (1986), Mannheim attributes to Marx the discovery that ideology is no longer a psychological distortion, but is the whole structure of the mind and the whole consciousness of a class. As Ricoeur explains, Mannheim extends and criticises Marx concept of ideology to a point where it becomes a confusing concept. Mannheim argues that the concept of ideology has become a universalised concept because when people speak about ideology they are caught by their own ideology. This is why I hope that by

conducting collaborative research with different members of staff with different ideologies has assisted, to some extent, in overcoming Mannheim's suspicion about the concept of ideology and false consciousness.

Other theorists who extend the concept of ideology are Gramsci (1988) in his theories of hegemony; Althusser (1971) in his theory on the role of ideology in the social system; and Foucault (2000), who did not use the term 'ideology' in his analysis of power as it had been too often related to false consciousness.

Foucault (2000) and many other scholars reject the term of 'false consciousness' as it appears to be problematic because it assumes that one can arrive at a true version of reality. Other theorists such as Habermas (1984, 1987) have shifted from a theory of consciousness based on ideology critique to a theory of communication (see 5.5). However, as Augoustinos (1999) states, the process of determining the truth and falsity of certain versions of reality is important to challenge dominant discourses and practices. She proposes that false consciousness should continue to be used not as a psychological phenomenon from individuals, but as part of everyday social practices and relations within the current system.

Following Augoustinos (1999) suggestions and taking into account Mannheim's suspicion about ideology, I have addressed false consciousness issues inscribed in the everyday practices and relations of staff in higher education institutions using a collaborative research approach. As Alvesson and Deetz (1996) explain, issues of staff self-understanding of experience is central. This is why co-researchers have explored their thinking and actions regarding social learning and sustainability in their institutions. For this to happen, the creation of safe platforms for dialogue and reflection has become really important. I acknowledge the complexity, almost the impossibility, of determining a true version of reality of the topic of investigation. I hope that the interaction and dialogues established amongst co-researchers has helped in addressing issues of false consciousness and unpacking more deeply underlying assumptions and values.

## 5.5 HABERMASIAN THEORY OF COMMUNICATIVE ACTION

Habermas's key concepts and theory of communicative action have been particularly important to place my research on a solid ontological, epistemological and methodological ground, maintaining a relationship between an 'objectivist' analysis of higher education institutions as complex systems to support social learning and sustainability, and a 'subjectivist' analysis of these dynamics through reflecting on staff experiences in their institutions (Calhoun & Karaganis, 2001).

This section focuses on how Habermasian theories and key concepts have informed my study. These concepts are (i) knowledge interests and critical hermeneutics; (ii) communicative action; and, (iii) the theory of 'system' and 'lifeworld.'

- *Habermas's knowledge constitutive interests and critical hermeneutics*

Habermas's contributions to critical social theory are many (Calhoun & Karaganis, 2001). As mentioned before, one of the major concerns of this key thinker is the rise of instrumental reason and technocratic consciousness, which he analyses at two distinctive levels (1980). At the level of social theory, Habermas (1972) argues that technocratic consciousness reflects a particular class interest in domination and affects the structure of the fundamental human interests. At the level of theory of knowledge, he explores the ways technical reason has dominated modern reason (Held, 1980).

Habermas (1972) looks at the nature of human interests, knowledge and action. He states that the founders of critical social theory failed by assuming the existence of only one type of reason associated with control and interest, namely, instrumental reason. Habermas identifies other interests in which all knowledge is formed. Firstly, he identifies a practical interest or a hermeneutic reflective practice, which has the aim of achieving understanding for better communication. For Plant (2001), hermeneutic reflective practice involves educators and researchers reflecting on practice based on theory, respecting participants' professional and informed judgements. However, the emphasis on understanding has sometimes been criticised as it may not lead to empowerment. In my thesis, I have not defined a specific research objective regarding the empowerment of participants. I have tried to offer spaces for co-researchers to

express their views on social learning. As a research facilitator, I have tried to challenge their perceptions and take co-researchers into deeper levels of analysis of issues. It is important to note, however, that I have not looked at the levels of change that co-researchers experienced after participating in my research, if they did.

Secondly, Habermas (1972) also points out the existence of an emancipatory interest, which entails all the attributes of hermeneutic reflective practice offering people the possibilities for achieving freedom from any kinds of domination (Harvey Brown & Goodman, 2001). Habermas concentrates his efforts on this type of interest, offering the possibilities for achieving it through his renowned theory of communicative action. Although his theory on human interests is incomplete and has created a diverse range of critiques (Held, 1980), he explores it further in his master project of communicative action upon which this thesis has been constructed.

- *Communicative and social action*

Habermas (1984) distinguishes two types of communication regarding social action. He argues that communication can be either strategic or a true communicative action. According to Harvey Brown and Goodman (2001) in strategic communication the goal of social action is pre-established and sometimes hidden. The objective of this type of communication is not to reach an agreement or consensus, but to undertake the plans of the speaker, for example, from a senior manager in a higher education institution or the main investigator in a research study. Language is used as a tool to merely achieve a particular and pre-established goal. Therefore, this type of communication falls under an instrumental reason which leads to the problems raised by the earlier critical theorists of the Frankfurt School. However, Habermas finds in communicative action the place where mutual understanding can be achieved. Hence, members of staff of higher education institutions are not treated as simply objects to be used to achieve someone's goals, but to coordinate social action setting up cooperative goals. In this case, the ways language is used to reach a consensus amongst participants becomes highly important. Therefore, communicative action offers an alternative and emancipatory rationality, where situations can be collaboratively analysed and action can be taken through a consensus process.

I see strong parallels with Habermas's communicative action and the conceptual framework underpinning social learning. Both processes are informed by social interaction, collaboration and possibilities for social change.<sup>121</sup> I have also used Habermasian theory of communicative action as a methodological framework to enhance the reflexive capacities of co-researchers to explore the ways social learning and sustainability occur in their institutions and to identify cultural and institutional changes which can enable or restrict their emergence. The methodology designed for this study has provided co-researchers with a critical reflective space where communicative interactions based on agreements and consensus could occur. However, due to Lyotard (1984) and Wals et al. (2009), I was also interested in the discussions with no agreed consensus, as they reflect the different situations and opinions existing amongst the members of staff who have participated in this research.

- *Habermas's social theory: the lifeworld and system world*

Habermas's relevance in this study has also been underpinned by his substantial social theory based on a theory of system and a theory of lifeworld. Although this theory has also engendered many critiques (Held, 1980; Honneth, 1996a, 1996b), it offers an alternative way of dealing with the problems which arise for members of staff in higher education institutions when both systems collide (2001). According to Alvesson and Deetz (1996), Habermas distinguishes two historical learning processes: (i) a technological, scientific and strategic learning, associated with the system world; and (ii) a communicative, political and ethical learning, associated with the lifeworld.

It is in the lifeworld where Habermas (1987) identifies the conditions under which interaction and communication can be free from social interests and domination and, thus, where communicative action and social learning can occur. The lifeworld represents the dynamics "by which culture, social order and individual identity are secured" (Kemmis, 2001, p. 94). Habermas (pp. 343-344) states that these dynamics are possible through their correlative processes of reproduction. These are (i) culture reproduction in which staff from higher education institutions reproduce and modify pre-existing knowledge through mutual understanding; (ii) social integration which

---

<sup>121</sup> Chapter 3, section 3.2.1 briefly summarises the theoretical framework underpinning social learning.

provides constancy of the identity of groups, departments and disciplines, and members of staff manage interpersonal interactions; and, (iii) socialisation which ensures that future and new members of staff acquire the competences to participate in communicative and social learning processes.

Habermas (1984, 1987) finds in the lifeworld the place for an ideal free speech as a means for emancipation which is relevant to define social learning and to frame the methodology used in my study. This ideal speech consists of two main presuppositions. First, there is a need for true understanding between participants. Thus, it is important to reach a consensus based on rational arguments. Second, no relevant argument can be suppressed, so all the participants have the right and are allowed to participate in the discourse (Harvey Brown & Goodman, 2001). Habermas's ideal speech enables the exploration of statements and arguments according to validity criteria, such as comprehensibility, sincerity, truthfulness and legitimacy (Scherer, 2009).

According to Kemmis (2001), the system world in modern societies operates through rational and instrumental action oriented to outcomes and successes. In my study, I consider higher education institutions part of the system world which Habermas (1984, 1987) describes.<sup>122</sup> Higher education institutions operate through the definition of goals, targets and strategies which can be measured. Higher education institutions often employ a functional rationality which can pose particular kinds of problems to enable social learning and social interactions. Other broader systems, such as the educational and political ones, operate many times through the same instrumental action, which will define the type of outcomes that higher education institutions need to deliver.

## **5.6 PHILOSOPHICAL ASSUMPTIONS OF THIS CRITICAL SOCIAL RESEARCH**

Critical social research has been approached distinctively not only through its history and development, but also through the different perspectives and concepts defined by its key thinkers. However, the majority of critical social research studies generally entail a series of basic research assumptions and characteristics. Critical social research, unlike many interpretive studies, assumes that knowledge and research are influenced by

---

<sup>122</sup> Habermas (1987) particularly focuses on political and economic systems, such as the economic market.

power structures and interests. Thus, reality is described through knowledge which is power-laden. As Plant (2001) states, the ontology of this paradigm consists of natural and social realities which are socially constructed. This reality is shaped by social, political, cultural, economic, ethnic and gender values (Lincoln & Guba, 2005).

I recognise that my research is subjectivist, value-mediated and influenced by the researcher's and participants' views and assumptions (Lincoln & Guba, 2005).<sup>123</sup> I also believe that although critical social research seeks to explore the fundamental nature of reality, it is very complex to know the true version of reality. To overcome this issue, I have conducted collaborative research to capture and discuss different ideologies and realities on social learning in the area of sustainability in different higher education institutions.

In summary, critical social research in this study has informed a piece of research which:

- *is collaborative and challenges power structures existing in traditional research* (Fien, 1992; Fien & Hillcoat, 1996; Robottom & Hart, 1993). According to Fien and Hillcoat (1996) and Robottom and Hart (1993), in the 1990s, a positivist dominant paradigm seemed to exist in many environmental and sustainability research studies which were generally focused on behavioural change. This positivist worldview is characterised by an 'external expert' role adopted by researchers, disempowerment of participants and lack of self-reflective practice which limit the possibilities and opportunities to change towards sustainability. More recently, higher education researchers have engaged in research studies which (i) discuss the need to reform the curriculum; (ii) use surveys, summarise and describe sustainability initiatives; (iii) report the narrative accounts of stories of institutional change; or, (iv) develop audit reports about successful projects and programmes (Fien & Maclean, 2000). Although these inquiries are important to advance the sustainability agenda in higher education, only a few have moved from description to more critical approaches of research (Blaze Corcoran et al., 2004; Wright, 2010). It has been acknowledged that research in sustainability and learning for sustainability should be underpinned by collaborative, participative and action research processes which

---

<sup>123</sup> Please refer to chapter 1, section 1.4, to check my research assumptions.



are rooted in concrete social experiences, seeking to address the problems of members of staff in participating in social learning processes, and dealing with false consciousness and ideology issues which conceal their enlightenment (Fien & Hillcoat, 1996; Wright, 2006). My research has used a participatory research method to collectively reflect on social learning experiences from members of staff in different higher education institutions and identify institutional opportunities and limitations to support this kind of learning.

- *is self-conscious, reflective and positioned* (Giroux, 2003). In this research, I assume the implications of being attached to concrete theoretical perspectives; most of which come from a scientific background acquired in my undergraduate degree and an educational and sustainability paradigm developed during the last few years researching sustainability issues. I also assume the implications of working with different members of staff who have also brought their perspectives and ideologies into the study. In this sense, critical social research has offered a means to reflect on all these ontological and epistemological approaches, to help uncover part of the different assumptions, values and beliefs from the main researcher, research participants and the broader research discipline (Fien & Hillcoat, 1996). It has not been the intention of this thesis to change the nature of any of these assumptions. In this thesis, I have explored them together with co-researchers and participants and expose them using thick descriptions when this has been possible.
- *is transformative* (Calhoun & Karaganis, 2001; Giroux, 2003; Kincheloe & McLaren, 2005; Scherer, 2009). Distinctive from traditional forms of social theory which aim at understanding and explaining the status quo of higher education institutions (Scherer, 2009), my research seeks possibilities and opportunities for these institutions to contribute to the growing agenda of sustainability by promoting social learning as a way to enhance institutional performance. My research proposes indicators which can assist higher education institutions to support social learning for sustainability.
- *seeks social and cultural emancipation* (Agger, 1991; Kincheloe & McLaren, 2005). The research, rather than merely analysing the social learning experiences taking

place in higher education, has sought to gain an insight into how these experiences may be (or not) influenced by institutional processes.

- *assumes that institutional processes, knowledge and language are mediated by power relations and interests* (Kincheloe & McLaren, 2005). The research has aimed at exposing some of the relations of power inscribed in higher education institutions which hinder the emergence of social learning and sustainability. These power relations have been identified and analysed by co-researchers and informants who have participated in this research.
- *assumes that power can be seen not only as repressive, but also as a positive attribute* (Foucault, 2000; Gaventa & Cornwall, 2001). Many of the scholars who have studied power relations limit their understanding of power as a 'power-over' relation. However, in some cases, power can also be seen as an attribute which is inherent to people and which is not limited by others (Gaventa & Cornwall, 2001). This assumption is crucial to sustainability research in higher education as it reflects the possibilities that institutional agents have to enable the emergence of social learning and sustainability in their organisations.
- *uses critical hermeneutics of suspicion for textual analysis* (Habermas, 1972; Scott-Baumann, 2009). Critical hermeneutics encourages researchers to read between the lines of a text and suspect about the meanings of the text. Ricoeur (1989) suggests that critical openness, suspicion and hope are the basis of hermeneutics. On the one hand, it is important to unmask the assumptions, beliefs and interests of the text, but, on the other hand, the researcher needs to remain open enough to understand what the text may explain. I have used critical hermeneutics to understand institutional documentation and analyse the transcripts from the collaborative research and interviews,<sup>124</sup> as well as to challenge my own personal beliefs.

---

<sup>124</sup> Please refer to chapter 6, section 6.4 for more information about data analysis and interpretation.

## 5.7 CRITIQUES OF CRITICAL SOCIAL RESEARCH

There are a great number of critiques of critical social research in the literature. In this section, I outline general critiques of this paradigm and of Habermasian communicative action theory.

Earlier critical theorists undermine the value of empirical research in critical social theory believing that empiricism claims to be neutral and value-free. Although the Frankfurt School, especially Habermas, acknowledge the importance of empirical and theoretical research in critical social theory to understand more deeply the complex social reality (Agger, 1991), critical theorists are not best known for conducting empirical research (Alvesson & Deetz, 1996). I disagree with Alvesson and Deetz (1996) in that critical social theory has been found irrelevant in undertaking empirical studies. In my case, it has offered me the lens to know what to look at, how to look at it, how to interpret it and, more importantly, how to facilitate research sessions with co-researchers.

According to Held (1980), another problem which critical social theory has not resolved is the relationship between theory and practice. The work of critical social researchers is based on a revolutionary theory in a non-revolutionary age, as they acknowledge. Their work presents a complex problem, as they believe that social change and transformation must be historically rooted. However, their theory does not incorporate the social conflict or the struggle of social groups (Honneth, 1996a). My research has used a collaborative and participatory research methodology which has intended to engage co-researchers in reflecting on their experiences of social learning as well as their university's engagement with sustainability taking into account historical perspectives. The research has engaged co-researchers in identifying and discussing the problems that they have encountered regarding social learning and sustainability within their institutions.

Regarding Habermas's critical social theory, this scholar has been especially criticised regarding the separation which he seems to imply with his social theory based on a lifeworld and a system world (Archer, 1996; Calhoun & Karaganis, 2001; Harvey Brown & Goodman, 2001; Honneth, 1996b; Scherer, 2009), and regarding his utopian concepts of

an ideal speech situation and consensus (Alvesson & Deetz, 1996; Harvey Brown & Goodman, 2001; Held, 1980; Scherer, 2009). Scherer (2009) points out that Habermas oversimplifies social reality by introducing systems theory as a basis to conceptualise his social theory of system and lifeworlds. Habermas (1984, 1987) acknowledges the role of systems integration in reducing complexity, but he is concerned with the danger of the colonisation of the lifeworld by the system world. Archer (1996) proposes that Habermasian theory should further analyse the relationships between structure and culture and to distinguish between the social and cultural system, and socio-cultural and structural interaction. My research tries to identify the dialectical relationships likely to exist between institutional culture and social learning. The relationships which Archer proposes are addressed and further analysed in chapter 3, section 3.4.2.

Habermas's (1984, 1987) analysis of the ideal speech situation is based on the idealised cases of communicative action which take place in everyday life in modern societies. According to Harvey Brown and Goodman (2001, p. 213), "this is a hardly promising beginning for a theory that seeks to transcend any local context." In the ideal speech situation, Habermas is especially concerned with the conditions and possibilities of argument. Thus, his theory of communication is focused on explaining the nature of understanding, the structure of human reason and the conditions in which discourse takes place (Held, 1980). For Habermas, understanding a communication implies taking a position on the validity claims which are derived from the rationality of the argument. His definition of understanding has also received many critiques in that it incorporates his utopian aspirations. To understand, there is no need to take a stand. Indeed, communication and understanding do not necessarily need consensus free of non-rationality (Harvey Brown & Goodman, 2001). Postmodern theorists, such as Jean-François Lyotard (1984), have criticised Habermas stating that his ideal truth based on a universal consensus diminishes the truth expressed by particular persons and groups. For Lyotard, the real truth is one created through local narratives of everyday life.

This critique is highly valuable for conducting sustainability research in higher education institutions. Although I have sought a majority view amongst the members of staff participating in this research regarding key questions about social learning, I understand that this is not always possible and that diversity of ideas without a formal agreement

are also valuable to this study. I agree with Lyotard (1984) that a universal consensus marginalises the importance of local narratives of day-to-day life. This is why my research is also interested in exploring staff experiences on social learning which have happened in their everyday life rather than focusing on metanarratives.

Axel Honneth (1996b) criticises Habermas, as well as the earlier critical social theorists, for the ways they ignored the social dimension of critical theory. For him, it is important to emphasise how society reproduces itself through the conflictive interaction of social groups (Anderson, 2000). Although Habermas analyses historical development through the conflict between the system and lifeworld, Honneth explores historical development through analysing the struggles of social groups.

## **5.8 SUMMARY**

This chapter has reported on the methodological framework in which this thesis has been constructed. Critical social theory has provided a theoretical rationale to design this research, collect evidence of social learning in the area of sustainability in higher education, analyse the information that emerged, and select the validation strategies and ethical considerations. The ways in which critical social theory have informed data collection and analysis are further explained in the next chapter.

The following key points summarise the theory that underpins my critical practice:

- 1) I have stressed the role of the thinkers from the Frankfurt School in shaping critical social theory, but also extended the debate with ideas from later critical theorists such as Beck and Giddens and scholars from other research schools such as postmodernism. The chapter has emphasised that critical social theory needs to be understood within the particular historical context which influenced its development.
- 2) In general terms, critical social theory seeks to explore and critique social and political practices, injustices and oppressive conditions which are exploiting people. It seeks to provide opportunities for human and social emancipation.

- 3) The chapter has outlined key concepts, theories and issues which have informed my research. These are concepts of (i) critique and theory, (ii) power and ideology; and, (iii) false consciousness.
- 4) Special emphasis has been given to Habermasian theory of communicative action as it has informed how social learning for sustainability has been defined by my study and the methodology I have used to collect data and interpret it. I have described Habermas's ideas on (i) human interests and critical hermeneutics; (ii) communicative and social action; as well as, (iii) his social theory based on the lifeworld and the system world.
- 5) The chapter has highlighted that although Habermas focuses on the ideal speech situation and consensus-building taking place in a communicative process, I am also interested in capturing individual stories and experiences of social learning without reaching consensus among participants. Thus, I have avoided metanarratives and have enriched the theory of communicative action with some postmodernist ideas about the critical role of local experiences.
- 6) Further, critical social theory and Habermas's communicative action have informed a research study which is (i) collaborative and challenges power structures existing in traditional research; (ii) is self-conscious, reflective and positioned; (iii) is transformative as it contributes to institutional change for sustainability; (iv) assumes that power relations and interests may enable or restrict social learning practices in higher education; (v) assumes that power can also operate as a positive inherent attribute of change agents in higher education institutions; and, finally, (vi) uses critical hermeneutics to unmask texts and transcriptions.
- 7) Several critiques of critical social theory have been found in the literature. The chapter has highlighted the following ones: (i) the problematic issue of empirical research; (ii) the problematic relationships between theory and practice; and, (iii) Habermas's focus on utopian ideas, the ideal speech, consensus-building processes, and the separation between the lifeworld and the system world.

## **CHAPTER 6 RESEARCH METHODS AND STRATEGIES FOR DATA COLLECTION AND ANALYSIS**

### **6.1 INTRODUCTION**

Critical social theory accepts both quantitative and qualitative empirical research (Creswell, 2007). I have conducted a qualitative research as I am interested in analysing staff experiences and facilitate research sessions where research participants can reflect and discuss institutional opportunities and constraints related to social learning for sustainability.

According to Denzin and Lincoln (2005, p.3), qualitative research is a “situated activity” that consists of describing “the routine and problematic moments and meanings in individuals’ lives through interpretative, material and transformative practices.” Qualitative research is underpinned by a wide range of theoretical and methodological approaches and the use of a great variety of data sources (Flick, 2002). Although qualitative researchers are not restricted to a particular paradigm of inquiry, most of them draw “converging lines of inquiry” (Yin, 2003, p. 98) and provide deeper understandings of the phenomena under study by collecting evidence with a multi-method focus (Flick, 2002). If the existing theories and methods are not adequate to study the research topic, it is not unusual for qualitative researchers to adapt them or develop new methods and approaches (Kvale, 2007).

In this chapter, I present the different methods and techniques which I have employed to conduct this inquiry and explain how the social critical paradigm has informed their development. Particular emphasis is made on collective memory-work which is the collaborative research method that I have used to capture and analyse staff stories of social learning for sustainability in three different higher education institutions in the UK. The ways critical social theory has guided the cyclical processes of data analysis and interpretation are delineated. Finally, the validation strategies and ethical and political considerations of the study are identified.

## 6.2 PLANNING THE RESEARCH METHODOLOGY

My research seeks to provide a deeper understanding of social learning for sustainability through a multi-case study approach. Through the collection and interpretation of the data arising from the case studies, I propose indicators of social learning for sustainability which can be used as self-assessment tools for institutions or integrated in benchmarking frameworks.

As described by Stake (1995), a case study is the analysis of the particularities and complexities of a specific case which has been selected because it is of special interest for the research area. The institutions at the heart of the pilot study and in-depth case studies have been chosen because of their explicit commitments to sustainability as institutions and for their long term engagement with this agenda in the UK. The institutions have been recognised by the sector as leading examples of sustainability in higher education.<sup>125</sup> Through this selection, I assume that higher education institutions which have formally recognised their commitment to sustainability and have strategic plans to address it at the institutional level are more likely to have greater social learning in the area of sustainability.

To collect evidence, I have triangulated<sup>126</sup> a diversity of research methods to provide a systematic approach to social learning in higher education, as well as to add rigour, richness and complexity to the study (Denzin & Lincoln, 2005). The research methods and techniques employed by my research are:

- (i) collective memory-work
- (ii) key informant input
- (iii) interviews
- (iv) review of institutional documents and websites
- (v) researcher's journal

---

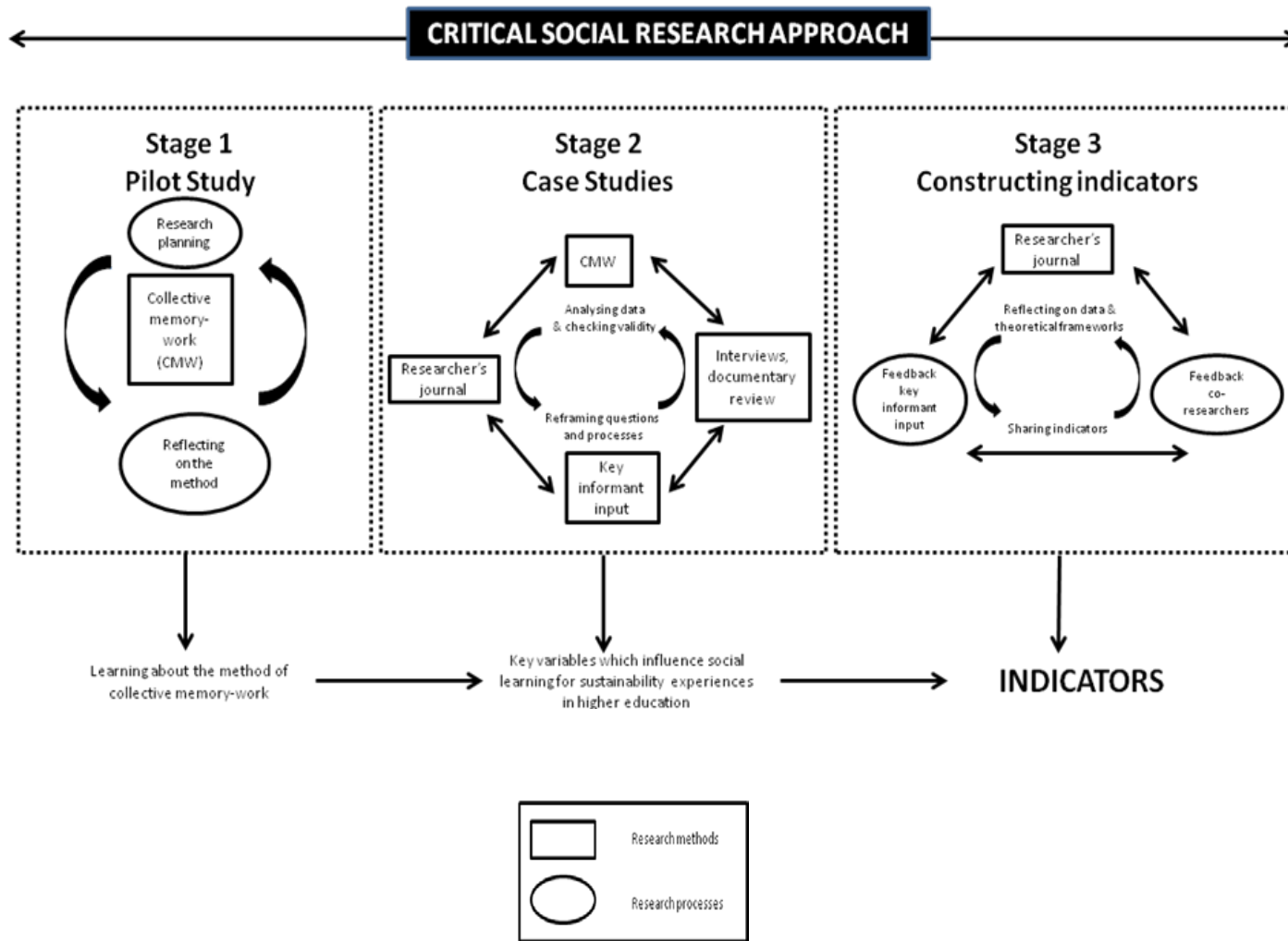
<sup>125</sup> Please refer to chapter 7, section 7.2 and chapter 8, section 8.2 where I explain in more detail the criteria for selecting the three universities in which I have sought to capture information about social learning for sustainability.

<sup>126</sup> Please refer to section 6.5.2 of this chapter where I explain how the triangulation of methods has been undertaken.



The critical nature of these methods has made it possible to challenge power relations likely to exist in research studies as well as dealing with issues of false consciousness. Figure 6.1 illustrates the overall methodology which has guided this critical research.

Figure 6.1 Research methodology



## 6.3 RESEARCH METHODS

In this section, the different research methods and techniques used to collect evidence and identify key variables influencing social learning in the area of sustainability at the universities studied are outlined. I firstly examine extensively collective memory-work as a collaborative method for critical social research and, then, explain the rest of research methods listed in the section above.

### 6.3.1 Collective memory-work

The core research method used in this inquiry is collective memory-work which has been employed to explore staff experiences and institutional realities of social learning for sustainability. Collective memory-work has been chosen as it is a creative method that can be aligned with the basic assumptions of critical social theory and Habermas's communicative action.<sup>127</sup> Following Habermas's (1984) theory, I hoped that this method could provide a critical space for co-researchers where communicative action and mutual understanding on social learning for sustainability could be achieved.

Collective memory-work challenges the accepted notions of objectivity by using personal experience as a means to build social knowledge (Schratz & Walker, 1995), acknowledging that research is subjectivist and value-laden (Lincoln & Guba, 2005). The subjects and objects of research, many times identified as 'co-researchers,' write memories about a concrete episode or event in their lives. These memories of everyday life are not seen through an individual perspective, but rendered in a collective form of analysis within a collective memory-work group (Schratz, 1996). Collective memory-work therefore is anchored in concrete social experiences (Fien & Hillcoat, 1996) and constructs the research itself as a collective process.

This method challenges social research in which theory and everyday experience are separated, and research subjects and objects are disconnected from the research process itself (Schratz & Walker, 1995). The method aims at breaking down the barriers

---

<sup>127</sup> Please refer to chapter 5 for more information about the underlying assumptions and concepts of critical social theory and Habermas's communicative action theory.

between the object and subject of research. The assumption is that research “is only possible if... [both] are one and the same person” (Haug et al., 1987, p. 35). Crawford et al. (1992) and Small (2004) suggest that in collective memory-work the hierarchical relationships between the researcher and the researched are avoided. This is aligned to Sayer’s (1992, p. 22) view of research subjects, who can be any “creative agents who bring about change.” Sayer suggests that by reducing research subjects only to scientists, passive and contemplative relationships between the researcher and the researched are inevitably established.

- *Origins and applications of collective memory-work*

The first attempt at using collective memory-work was in the study of female sexualisation, *Sexualisierung: Frauenformen*, published by Haug et al. (1987), a group of German feminists and constructivists.<sup>128</sup> In this study, the researchers were interested in exploring the process of how women’s bodies become sexualised. To do so, they formed various collective memory-work groups of women who wrote personal stories and investigated how the body is linked to sexuality, the ways gender is expressed through the body and how this is related to the existing social structures and social relations. In the mid 1980’s, Haug et al. introduced the method to other feminist researchers in Australia, Crawford et al. (1992), who employed it in a study on *Emotions and Gender*. In this study, the researchers reflect on and evaluate the method of collective memory-work, and compile and review its rules and guidelines.

Since Haug et al.’s (1987) first conceptualisation of collective memory-work, the method has been applied by researchers coming from diverse disciplines and areas of study (Schratz & Walker, 1995), especially to investigate women and feminist research topics. Its popularity has considerably increased because its methodological principles and philosophical assumptions enable the emergence of deep discussions and facilitate processes of emancipation and enlightenment, which many critical researchers seek to achieve through their studies. Small (2007, p. 5) lists the various subject areas in which

---

<sup>128</sup> The original method was underpinned by constructivist ideas. Later on in this section, I explain how I have reappraised the method within a critical social perspective.

the method has been employed.<sup>129</sup> These include: emotion and gender; the experience of women leaders; work-life harmony; body/landscape relations; body and place racism; subjectivity; silence and gender; women's sexuality; consumer service encounters; patient-practitioner relationships; leisure experiences; tourist experiences; use of memory-work to enhance student learning; student assessment process; women's writing; emotion and gender and learning; study of economics and gender; emotion and mathematics learning; science; women and mathematics; menstruation; pro-feminist subjectivities among men; women's speaking positions and feminine subjectivities; women and AIDS prevention; HIV treatments; older women, health and relationships; heterosexuality and desire; and, critiques of collective memory-work.

As the above list indicates, collective memory-work has never been chosen to investigate issues related to sustainability or learning for sustainability in higher education.<sup>130</sup> On the one hand, this has posed a challenge for my doctoral thesis particularly in relation to the applicability of the method since I have been unable to draw upon any previous experience to conduct the research. On the other hand, it has brought about new research opportunities and insights not just to the area of sustainability or social learning, but also perhaps to the method with regards to the method itself. I hope that the use of collective memory-work in my research has enriched critical social theory by adding memory as a key psychological component.

- *Underlying assumptions*

As Crawford et al. (1992) indicate, the strength of collective memory-work is that it is aligned to Haug et al.'s (1987) theory of female sexualisation, of how individuals become selves and the role that they play in the construction of selves. According to Schratz and Walker (1995), memory-work assumes that our experience as individuals can inform the process of socialisation. Haug et al. (p. 34) point out that:

---

<sup>129</sup> Some of the studies listed by Small (2007) have taken different perspectives and changed the original methodology proposed by the creators of collective memory-work. As my study also differs quite distinctively regarding the assumptions and methodological features of Haug et al. (1987), in section 6.3.1 of this chapter, I introduce how I have reappraised the original method.

<sup>130</sup> It is important to note that collective memory-work has been used to explore issues related to nature studies and women (Kaufman & et al., 2006).

“The very notion that our own past experience may offer some insight into the ways in which individuals construct themselves into existing relations, thereby themselves reproducing a social formation, itself contains an implicit argument for a particular methodology.”

Collective memory-work therefore starts with the assumption that significant examples of practices explored through individual memories can inform the construction of one’s identity (Haug et al., 1987). For Schratz and Walker (1995, p. 41) “the task of memory-work is to reveal the process by which we construct our sense of self by uncovering successive layers of significance in personal accounts.” These authors employed collective memory-work in their teaching on intercultural learning. They encouraged their students to form various collective memory-work groups and find out themes related to interculturalism. For example, students chose to write stories about encountering a person of another skin colour. Through writing one of their memories about this topic, students discussed the importance of external appearance and the role that skin colour plays in racism.

Although collective memory-work may seem to share some similarities with psychoanalysis, it is important to note that memory workers claim to be researchers, not therapists (Haug et al., 1987). Collective memory-workers are not interested in therapy as therapy is sometimes meant to help people change and cope with the existing social demands – the social is accepted and given (Kaufman & et al., 2006). Instead, collective memory-work is “concerned to close the gaps between theory and experience in ways that are intended to change the nature of experience, not simply to accept it” (Haug et al., 1987). Aligned to the critical social theory underpinning my study, collective memory-work focuses on social emancipation rather than individual mental health (Leonardo, 2004), assuming that our past and personal experiences give us a guideline to change the present and the future (Kincheloe & McLaren, 2005; Schratz & Walker, 1995).

Although changing the experiences and realities of co-researchers is a core feature of collective memory-work, it has not the object of my research to analyse whether members of staff have changed their commitment, thinking or actions regarding social

learning for sustainability as a result of the collective memory-work sessions organised as part of my study. Collective memory-work has been employed as a tool to identify common institutional influences in staff learning stories, and learn about the relationships likely to exist between social learning and institutional culture in the area of sustainability. Analysing whether the method of collective memory-work can be used as an action-research technique in sustainability is an important proposal which should be investigated in other research studies with different research questions and design.

- *The concept of memory in collective memory-work*

Halbwachs (1992) indicates that collective memory, like ideology and false consciousness, is a socially constructed concept rather than a given notion. It is individuals who remember, not groups or institutions. These individuals, by being part of a specific group, are able to strengthen the exercise of remembering and recreating the past. Halbwachs distinguishes two categories of memory: autobiographical memory and historical memory. The first is memory of events that we have personally experienced, and which needs to be reinforced and recalled periodically with people with whom one shared these experiences. The second is memory in which people do not remember events directly. Such memories need to be stimulated in indirect ways, such as reading or listening. The connections between individual and collective memory is clearly intimate as the two interpenetrate one another. However, the links between collective and historical memories are not clear, as it is not obvious what is going to become historical memory (Ricoeur, 2004)

Halbwachs (1992) argues that the various views of the past are shaped by the beliefs, interests and aspirations of the present. Adding critical social research principles to Halbwachs's theory, the past can also be seen through power influences which influence the way we remember. However, Schwartz (as cited in Halbwachs, 1992) affirms that if the past were only viewed through a 'presentist'<sup>131</sup> approach (or through the influence of false consciousness), history would be interpreted through various snapshots taken at

---

<sup>131</sup> The 'presentist' approach is a term used by Halbwachs (1992) to describe how the past is shaped by the present.

various times and expressed with different perspectives, instead of cumulatively. Schwartz asserts that the past has both cumulative and 'presentist' aspects.

The most interesting aspect of Halbwachs' (1992) theory of collective memory in my research is the notion of the collective process in the act of interpreting the past. However, the work of Haug et al. (1987) and Crawford et al. (1992) focus on individual memories. The research object of these studies is not a specific event remembered by all those who experienced it, but different events remembered individually by each co-researcher. These memories are then shared and discussed collectively. Although my study has been inspired by the work of Haug et al., I have also used Halbwachs's interpretation of the collective process of memory, as the co-researchers selected in each collective memory-work group belong to the same institution. Each co-researcher wrote his/her own story about social learning for sustainability. However, some of the events chosen were experienced by other co-researchers too. I hope that this has enriched the collective discussions as the different memories were complemented with more information and different points of view. I also hope that the research process undertaken in each institution has also led to the creation of new institutional narratives about social learning for sustainability.

- *Collective memory-work vs. narrative inquiry and critical incidents research*

Collective memory-work can be viewed as a form of narrative inquiry because both methods focus on human stories of experience (Connelly & Clandinin, 1990). Both methods offer research a way to highlight those understandings captured in stories, which are often not revealed by traditional forms of inquiry (Webster & Mertova, 2007). However, the methodological principles they use to critically reflect on and interpret personal events vary considerably (Kaufman & et al., 2006). Firstly, in collective memory-work, the hierarchical relationship between object and subject of research is avoided and stories are collectively analysed – this does not necessarily happen in



narrative inquiry. Secondly, collective memory-work challenges co-researchers to change the nature of their experiences.<sup>132</sup>

Some of the collective memory-work experiences are based on critical events or critical incidents.<sup>133</sup> A critical event reveals a shift of understanding or worldview by the storyteller (Webster & Mertova, 2007). Therefore, a critical event is a changing experience, positive or negative, and can only be identified after it has happened and is evaluated.<sup>134</sup>

Kaufman et al. (2006) suggest that analysing critical events through collective memory-work presents two main conflicts. Firstly, collective memory-work demonstrates that individuals shape their stories according to the dominant culture (it is assumed that individuals suffer from false consciousness). Therefore, significant life experience research may reproduce the dominant culture and accept it. Secondly, it does not take into account cross-cultural or diversity issues, which are intrinsic to collective memory-work. In memory-work, valuable insights can be achieved by comparing memories across different collective memory-work groups (Kaufman & et al., 2006).

My thesis has encouraged co-researchers to write both critical and trivial institutional incidents. Critical events have been analysed and discussed within the collective memory-work groups. I have also engaged in analysing the differences and commonalities between the stories and discussions generated in each collective memory-work group.

---

<sup>132</sup> As mentioned earlier in this chapter, my research has not assessed changes in co-researchers after the collective memory-work sessions.

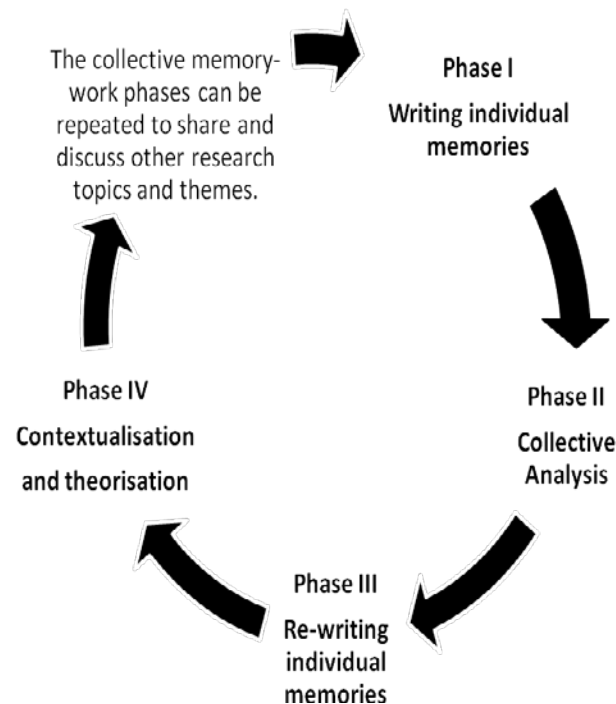
<sup>133</sup> In my study, I use the terms 'critical events' and 'critical incidents' interchangeably. It is important to note that the adjective of 'critical' preceding the noun does not relate to critical social theory, 'critical' refers to 'important.'

<sup>134</sup> The origins of exploring critical events come from the field of aviation psychology and, more specifically, from John Flanagan who developed the Critical Incident Technique in 1954. It is also important to note that, in the 1980's, Tanner (1980) and Peterson (1982) conducted research about significant life experiences on environmental activists and environmental educators respectively. The two environmental education researchers inspired a growing line of related studies in the field of environmental education (Chawla, 1998).

- *Rules and procedures of collective memory-work*

A group of co-researchers who share the same interest is set up to start the collective memory-work. In the work of Haug et al. (1987) and Crawford et al. (1992), the main researchers were also part of this group. Co-researchers then agree on some topics of interest to investigate, write about and discuss within the group. As Haug et al. state, individuals can complement each other by appealing to their own knowledge and collectively choose themes which can foster generalisation. Figure 6.2 illustrates the different phases which co-researchers go through after selecting the research themes.

**Figure 6.2 Phases of collective memory-work**



In phase I, co-researchers write in the third person<sup>135</sup> a memory of a concrete experience or event of everyday life on the topic which has been collectively chosen. In this phase, justification and explanations of the experiences are avoided as this is part of the work of the collective analysis. The most important is not what co-researchers remember, but

<sup>135</sup> It is believed that writing in the third person helps co-researchers to stand back from their stories and reflect more deeply on their experiences.

how they select their memories. For Crawford et al. (1992), writing stories helps co-researchers to construct their narratives in a logical and coherent structure without losing richness. For Haug et al. (1987, p. 36), the process of writing is:

“a transgression of boundaries, an exploration of new territory. It involves making public the events of our lives, wriggling free of the constraints of purely private and individual experiences. From a state of modest insignificance we enter a space in which we can take ourselves seriously.”

Writing about a specific moment is challenging as it inevitably leads to the incorporation of layered memories in the text. Johnston (2007) points out that, whereas some memories are about extraordinary events or critical incidents, others tend to draw on layered memories, i.e., many events or episodes of life merge into one story. Johnston’s experience of using collective memory-work in her study of *Gender and Mathematics* reveals that even specific events contain layered memories, as these are part of the context of the memory. However, some memories are more layered than others due to the nature of memory and/or being centred in institutional contexts. As Crawford et al. (1992) explain, people tend to remember the problematic and forget the trivial. Since collective memory-work is interested in the ‘usual’ - as this can be problematic as well, layered memories are more frequent as it is more difficult to write about a specific non-problematic event. Layered textures also appear in memories when they are placed in institutional contexts because it is usual to reflect on the repetitive nature of the institutional life. These layered memories generated what Johnston (p. 5) and her collective memory-work group call “the texture of everyday.”

In summary, in this phase, co-researchers engage in a reflective exercise where they begin to uncover some of the layers of their experiences in their life and institutions, and analyse their thoughts and values regarding the topic which has been chosen. The process of unpacking the layers of consciousness and thought has been important in my research based on critical social theories.

In phase II, memories are exchanged and critically analysed by the collective memory-work group. My study has used Habermas’s (1984) communicative understanding and action as a basis on which to conduct the collective analysis and discussion. It has also

followed Haug et al.'s (1987) and Crawford et al.'s (1992) principle that collective memory-work requires that staff memories are not analysed through an individual perspective, but in a collective form of analysis. I hope that the collective analysis of stories and interaction with co-researchers has assisted in dealing with false consciousness issues as well as to unpacking assumptions and beliefs of co-researchers.<sup>136</sup> In this context, Crawford et al. (1992, p. 53) examine intersubjective knowledge:

“The meanings of actions are not found in the actor’s head but in the common meanings which she/he negotiates in interaction with others – both then at the time of the episode and now in reflection. The memories of events are collectively reappraised. Memory-work makes it possible to put the agent, the actor, back into psychology – in both method and theory – without falling into psychological individualism.”

In phase III, co-researchers re-write their stories paying special attention to the issues raised in the previous phase. By re-writing their memories, co-researchers engage in a reflective process which brings projective memory into their texts (Schratz & Walker, 1995). Some researchers such as Crawford et al. (1992) and Kaufman et al. (2006) omitted this phase as their co-researchers experienced difficulties in re-writing the stories and found that it was unproductive for their study. However, in my view, by omitting this phase they diminished the opportunities for co-researchers to reflect on their stories, assumptions and beliefs; thus, they did not deeply engage in dealing with issues of reflexivity and false consciousness which are important to my research.

Finally, in phase IV, the new texts are compared with the old ones and discussed in view of a new understanding of the topic selected (Schratz & Walker, 1995). Co-researchers engage in a process of theorising the findings and comparing them with the existing literature and other pieces of research. If the research has involved more than one collective memory-work group, the findings can be compared and exchanged among the groups.

---

<sup>136</sup> Please refer to chapter 5, section 5.4.3, for more details on false consciousness issues.

- *Philosophical and methodological reappraisal of collective memory-work*

I have selected collective memory-work as the core research technique of this study because it enables the voice and experiences of members of staff to be captured through what I hope would be a creative and empowering research process. As a qualitative researcher located in the field of learning for sustainability, it is important to me that the results of this study are drawn upon a collaborative and participative process which challenges the thinking of members of staff.<sup>137</sup>

I consider that the work of Haug et al. (1987) and Crawford et al. (1992) is a first step in developing a research methodology which can challenge research which separates research subjects and objects from the inquiry itself. Their work has been inspirational, but I have found it necessary to adapt some philosophical and methodological features of the original method to suit my own research perspectives and the study's purposes (Denzin & Lincoln, 2005; Kvale, 2007). This is why it was important for me to (i) conduct a pilot study to identify which features I needed to rethink and adapt;<sup>138</sup> and, (ii) evaluate the method during its planning and development both with my supervisors and the collective memory-work groups in the institutions selected. In this section, the philosophical and methodological reappraisal for this study is presented. The principles of the original method which I have accepted and adapted to conduct my study are outlined.

- *Collective memory-work as a critical social research method*

Haug et al. (1987) and Crawford et al. (1992) locate collective memory-work within a constructivist paradigm. Constructivist researchers are mainly interested in the co-construction of knowledge between the researcher and the researched and are frequently criticised for primarily focussing on meaning. In some situations, power relations can privilege certain constructions over others. In my research, I am

---

<sup>137</sup> Please refer to chapter 1, section 1.3, and chapter 5, section 5.5, for more information about the transformative nature of my research.

<sup>138</sup> Please refer to chapter 7, section 7.3, and appendix 6 for more information and details about the pilot study.

interested in placing the different meanings generated by co-researchers within a wider critical social framework which enables the analysis of these meanings and exposes the power relations which are inscribed in them.

- *An institutional approach to collective memory-work*

Most of the collective memory-work studies which I have found in the literature focus on investigating the construction of individuals' identities and the ways individuals socialise. In my study, I am interested in investigating the institutions where members of staff work. The purpose of my research is to explore whether social learning opportunities at their institutions can be influenced by institutional culture and vice versa. I have used collective memory-work to learn from staff about the institution, instead of analysing how co-researchers have constructed their identities in the area of sustainability. This implies raising questions about the institutional opportunities of social learning for sustainability, rather than analysing identity issues.

- *The role of co-researchers*

Following the work of Haug et al. (1987) and Crawford et al. (1992), I call 'co-researchers' the members of staff who took part of the collective memory-work groups that I formed in each institution selected for the study. In my view, these authors describe co-researchers as ideal research participants who engage actively in the collective memory-work research and are able to facilitate and control the discussions by themselves. In my opinion, a co-researcher will only become a real co-researcher if (i) there is enough training provided; (ii) co-researchers have the opportunity to participate in many collective memory-work sessions; and, (iii) co-researchers share the same academic goals as the main researcher (Johnston, 2007). In my research, the reality is that co-researchers volunteered their time to participate. To keep them on board during the entire process, the research design of my thesis took into account time constraints. This means that little time and training was provided to co-researchers to become such active participants.

- *The role of the researcher*

As mentioned before, it is important to acknowledge the limitation that time has posed to my research. As the main researcher, if I wanted the research to happen and be focused on the research questions I previously defined, I had to adopt the role of facilitator, rather than being a co-researcher as Haug et al. (1987) and Crawford et al. (1992) did. By doing so, I inevitably acquired more research power and control. This implied constantly evaluating my research decisions and the ways I facilitated the research process to make sure that I had not interfered too much in the research. The following research processes were important in my research: (i) to keep my research journal up-to-date and; (ii) validate the credibility and authenticity of the results, and the interpretations of the findings with co-researchers and key informants (Creswell, 2007; Lincoln & Guba, 1985).<sup>139</sup>

- *Selection of themes*

In the original method, co-researchers decide the theme to write about and discuss it within the group. In my research, I chose the theme that best suited the research questions and shared it with the group. I invited co-researchers to write about one or more social learning for sustainability situations which had occurred in their institutions. I gave space to the collective memory-work group to reflect on the selected theme and give feedback indicating whether they thought it was appropriate for the research.

- *Contextualisation and theorisation*

My research is not interested in building theory, but in (i) providing a deeper understanding of how social learning in the area of sustainability occurs in higher education; and, (ii) identifying core variables which influence this process in order to construct indicators of social learning for sustainability. I have therefore reappraised the last phase of collective memory-work about theorisation and contextualisation. In this phase, co-researchers shared the re-written stories and compared them with

---

<sup>139</sup> Please refer to section 6.5 of this chapter about research quality and validity.

the original ones. I shared with co-researchers some of the findings of the previous sessions and asked them critical questions which needed clarification. It is hoped that by sharing the findings with co-researchers, the accuracy, validity and credibility of the findings from collective memory-work is enhanced.

- *Critiques of collective memory-work*

There are a number of critiques of collective memory-work in the literature mostly coming from researchers who have employed this method and primarily focusing the methodological features and underlying assumptions of the method. There is a lack of literature exposing the problems that collective memory-work raises in terms of its principles and frameworks used. This puts collective memory-work in a vulnerable situation regarding its theoretical basis and research assumptions. Throughout my research, I have tried to advance critiques regarding both the principles and practice of collective memory-work in order to assist those researchers who are interested in using this method in their (sustainability) inquiries. In this section, I outline some of the critiques found in the literature and describe how I have addressed the limitations through my study.

- *Subjective approach*

It is commonly argued by the positivist community that there exists a lack of objective validity in personal accounts. It is widely acknowledged that individuals tend to forget, reinterpret and falsify their experiences or attribute to themselves an ideological identity. Ingleton (2007) affirms that collective memory-work is in danger of being diminished by the questioning of credibility and subjectivity of the whole process. Nonetheless, collective memory-work as well as the majority of methods used in qualitative and critical social research are precisely concerned with the issues which are subjectively important to individuals (Haug et al., 1987). Collective memory-work challenges the understandings of objectivity using personal experience as a means to generate social knowledge. This does not mean the collective memory-workers and qualitative inquirers are not concerned about validity and trustworthiness. Qualitative researchers address them in ways that are



applicable to qualitative research (Creswell, 2007; Denzin & Lincoln, 2005; Maxwell, 1998) rather than to positivistic and quantitative research.

In my view, the problem of collective memory-work is that collective memory-workers have not succeeded in clarifying how they address validity and trustworthiness in their studies. As Creswell (2007) suggests, it is important that qualitative researchers employ and clarify accepted validity strategies to document the accuracy of their work. I outline how I have addressed quality, validity and trustworthiness of this study in section 6.5.

- *Memory as a source of knowledge*

Personal memories give me access to experiences of social learning for sustainability which I cannot find in institutional documents or by conducting interviews. Co-researchers of this study selected those social learning experiences that they wanted to write about and described them as they remembered. They imported reflections and explanations in their stories travelling backwards and forwards in time, sometimes blurring present and past experiences.

I agree that memory is not always accurate and does not truly represent the moment described by co-researchers. This is why the collective analysis and the interaction with co-researchers assisted in refining memories and dealing with false consciousness issues. As stated before in this section, Halbwachs (1992) states that memory plays a function in the present which is related to future hopes, intentions and aspirations. Alasuutari et al. (2008) affirm that memories also change slightly depending on the context, the audience or the stimuli. However, according to Portelli (as cited in Alasuutari et al., 2008), the strength of memory is that it is not accurate. The most important element of my research is that co-researchers revealed what really mattered to them about the moment they wrote about. A key issue in this research was to explore why the experiences selected had been important to the co-researchers and the ways they interpreted them. In this process, it was important to work on uncovering co-researchers' assumptions and beliefs in their interpretations of their stories.

- Collective analysis, intersubjectivity and theorisation

Stephenson (2007) questions whether the collective analysis and consensus is blurred at the end of the process due to the expectations of meeting the academic standards necessary to be recognised as proficient researchers. I agree with Stephenson that theorising and analysing complex concepts with co-researchers is challenging because: (i) the main researcher and co-researchers do not share the same academic goals of thesis-writing or publication; (ii) the short length of time together; and (iii) the groups are more interested in sharing and understanding experiences, and less academically prepared for theorising at an abstract level.

- *Data analysis and research control*

The critical moment of collective memory-work is the data analysis, where the researcher needs to pose questions on how to censor, delete or approve the co-researchers' voices, stories and discussions, and draw the final conclusions.

I agree with Small (2004) that collective memory-work researchers are in a weak position as they have not reported how the data analysis is undertaken or how control issues are dealt with during the research sessions. Cadman et al. (2007) in a collective memory-work about memory-workers, reaffirm this by stating that the latter struggled with their positions as co-researchers in the existing academic structure for not clarifying important issues such as data analysis strategies.

In the absence of guidelines on how to analyse the data arising from collective memory-work, I have decided to use a thematic analysis to make sense of the information from the collective memory-work discussions and stories written by co-researchers.<sup>140</sup> The thematic analysis has been useful to reduce the qualitative information into codes and categories, and give answers to the research questions posed by my study.

---

<sup>140</sup> Please refer to section 6.4 for more information about how I have analysed the data arising from the research.

The following sub-sections describe the methods which have complemented collective memory-work.

### **6.3.2 Key informant input**

According to Stake (1995), engaging in dialogue with key informants from the institutions where the research takes place is important to access the sites and ensure that all formal requests and permissions are carried out properly. A key informant is usually an individual who has a broad knowledge of the community which is being investigated and from whom data is collected for the research study. It is important to build a good relationship based on trust with the person or group of informants selected for the research as very valuable information and informed suggestions can be acquired (Marshall, 1996). The information obtained also depends on the investigator's ability to enhance the communication capabilities of each informant.

In this research, I have selected members of staff<sup>141</sup> with an informed opinion on sustainability in the institution to act as gatekeepers. These are members of staff whose role at the university consist of providing opportunities for sustainability within the institution. These key informants have helped me to (i) access the institution; (ii) select co-researchers; and, iii) conduct the different phases and cycles of the inquiry. They have also suggested which institutional documents to review, and approached, on my behalf, members of staff who I could interview.

### **6.3.3 Interviews**

Interviews are seen as a dialogue between the interviewer and the interviewee (Jupp, 2006), rather than simply a neutral exchange of information. Therefore, interviews are considered as processes of co-construction of knowledge and collaborative meaning-making in the interaction between the researcher and the interviewee (Fontana & Frey, 2005; Gubrium & Holdstein, 2002; Kvale, 2007; Warren, 2002). The interviewer and the interviewee reciprocally influence each other generating new social knowledge through

---

<sup>141</sup> Chapter 7 and appendices 6, 7 and 8 give more information about the key informants chosen in each institution where my research has been conducted.

their interaction. Informed by critical social theory, an interviewer will seek to uncover the values and assumptions of the interviewee, address issues of false consciousness and ask questions regarding power relations. Thus, if the same interview is undertaken by another interviewer, the information generated may be different (Kvale, 2007).

Interviewing is a common research method used in learning for sustainability research. Different studies have used different types and forms of interviews depending on the purposes of the researcher (Fontana & Frey, 2005). Whereas various PhD studies in this area have used interviews as the core research method to capture data (see Williams, 2008), others have used this technique to complement the information arising from other methods (see Díaz González, 2009; Reed Johnson, 2009; Togo, 2009). For example, I have used a similar approach to Togo's (2009) research. She used interviews to supplement and extend the information captured by the core research method, a sustainability self-assessment tool for assessing the level of integration of sustainability issues in university functions and activities. She sent this assessment tool to various departments, institutes and teams from Rhodes University in South Africa. She complemented this information through conducting interviews with 23 heads of departments and teams which served her to establish the extent of involvement of each department in sustainability initiatives. In my research, I have also used interviews to complement, contrast and extend the information captured through collective memory-work.

My research has used semi-structured interviews because it is possible to combine a structured list of issues which needs to be covered, and give freedom to add more points as necessary and ask for opinions on different issues (Thomas, 2009). As Yin (2003) suggests, this type of interview assists the researcher in starting a conversation with the interviewee by asking open-ended questions, but also to following a set of questions derived from the first impressions, perceptions and results of the investigation. The open questions are brought to the interview in the form of an interview guide, but the interviewer can decide in which sequence to ask which questions (Flick, 2002). In her PhD study about leadership and learning for sustainability in higher education, Williams (2008) affirms that the use of semi-structured interviews

assisted her in exploring issues further and more deeply, as well as elucidating answers which needed clarification.

I have interviewed 13 members of staff<sup>142</sup> to learn more about (i) learning experiences on social learning for sustainability; (ii) the university's policies and strategies and; (iii) the cultural and social learning contexts at each institution (Tierney & Dilley, 2002). In each university, I have interviewed senior managers to understand how sustainability and social learning are formally addressed at the institutional level. I have also interviewed other staff to get more details and opinions on moments and events which were highlighted during the collective memory-work sessions as well as capturing their social learning experiences.<sup>143</sup> These interviews have been recorded with a voice recorder with prior consent of the informants and transcribed verbatim later.

There are a number of critiques and standard objections to the use of qualitative interviews as data sources of evidence. Kvale (2007), for example, acknowledges that standard criticisms are based on the subjective and person-dependent nature of interviews. In response to this, he stresses that the objectivity and subjectivity of an interview needs to be analysed specifically for each of the multiple meanings of objectivity and subjectivity relevant to the interview research in question. Qualitative science has demonstrated its research rigour and concern about addressing validity issues which are specific for qualitative research. Validation becomes a matter of the researcher's ability to continually check, question and theoretically interpret the findings.

In response to critiques related to the biased nature of interviews, Kvale (2007) states that unacknowledged bias should invalidate the interview. However, recognised bias may bring new dimensions to investigate. Whereas interviews can be seen as methods which may lead to different meanings, it is important that the interviewer asks questions when it is necessary to check the reliability of the interviewees' answers.

---

<sup>142</sup> I have interviewed 5 members of staff at the University of Bradford and 8 members of staff at the University of Bristol. As is explained in chapter 7, I did not conduct interviews for the pilot study at the University of Gloucestershire.

<sup>143</sup> Appendices 7 and 8 give further information about the interviewees selected by my research.

#### **6.3.4 Review of institutional documents and websites**

Institutions such as universities produce many public documents which are interesting to analyse regarding research purposes (Jupp, 2006). These documents can be institutional policies and strategies, action plans, leaflets and posters or records of past activities. As Yin (2003, p. 98) states, “the most relevant in using documents is to corroborate and increase the evidence from other sources.” This author indicates that documents are useful to verify and correct the spellings, titles and names that had been mentioned during the research; to add more information and details obtained with other data sources; and to generate new questions for investigation.

I was interested to review institutional documents and websites to identify how social learning for sustainability is represented and promoted at the institutions selected.<sup>144</sup> I was also interested in reviewing leaflets as it is a way to learn more about past activities of social learning for sustainability which I did not have the opportunity to observe directly (Stake, 1995). I knew beforehand that social learning for sustainability is quite a new concept in the sustainability literature and, thus, I would rarely find it in any of the documents. However, I was keen to undertake the review to understand how the cultural and social context of the university was described in these documents and where the opportunities for promoting social learning for sustainability could appear.

#### **6.3.5 Researcher’s journal**

In qualitative and critical social research, investigators themselves are a fundamental part of the research process regarding their own presence as researchers, their experiences in the field and the reflexivity that they bring to the study (Kvale, 2007). A researcher’s journal assists investigators in documenting these experiences explicitly and reflect on them during the research process. The researcher’s journal “is a record of the researcher’s involvement in a project” (Hughes, 2000, p. 1). It is a method of documentation which the researcher can use to record ideas related to the process of approaching the field of study, applying the research methods, and establishing communication and building relationships with the research participants and

---

<sup>144</sup> Please refer to appendices 7 and 8 to view the documents which I have reviewed in each institution.

interviewees (Flick, 2002). As Jupp (2006) states, keeping a journal up-to-date enhances the researcher's self-inspection and reflexivity during the development of the study. This method became highly important in my research to explore my own and co-researchers' values, assumptions and false consciousness.

I have used the journal to record all the different research stages and developments, and write down all my thoughts, ideas and deliberations. This has helped me to establish a very interesting academic conversation between my own thoughts and the data that the research was yielding. The research journal has also helped me to make these thoughts more explicit and share them with my supervisors (Hall, 1996). As Flick (2002) states, these notes become very valuable data in qualitative research. They have also helped me to understand the role I was assuming in conducting the collective memory-work sessions and interviews, and to identify whether I was taking too much research control throughout the research.

#### **6.4 DATA ANALYSIS**

The process of data analysis is one of the most critical moments for qualitative inquirers, as it is a complex and time-consuming endeavour (Creswell, 2007; Flick, 2002). In my research, the process of data generation is simultaneously conducted with the data analysis to check continuously the information which the research was yielding. This systematic process helped me to address the research more effectively, and provided me with insights to guide further data collection or deeper exploration of the information with research participants.<sup>145</sup>

I have used thematic analysis to make sense of the information arising from the research. This strategy consists of identifying a manageable set of themes through a process of coding the data, comparing codes, and identifying broader themes to construct the narrative of findings. This approach has also entailed a critical reflection

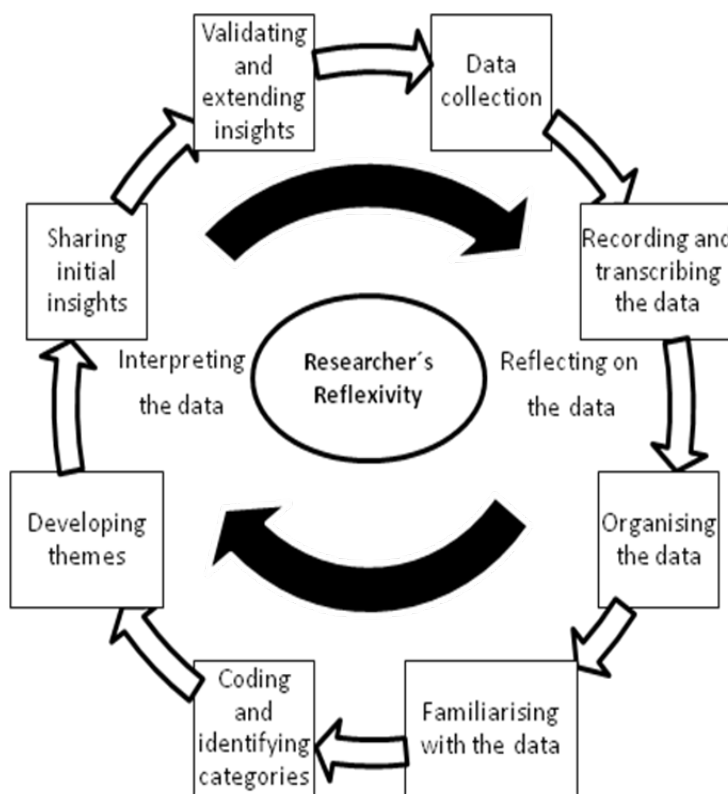
---

<sup>145</sup> Please note that when I refer to research participants I include co-researchers of collective memory-work, interviewees and key informants.

on the assumptions, biases and false consciousness of the researcher and participant researchers. NVivo 8<sup>146</sup> has assisted me in managing the data, codes and themes.

The cyclical process of data analysis of my study is best represented in the figure below (see figure 6.3). The sections that will continue unpack all the stages of data analysis presented in figure 6.3.

**Figure 6.3** Cyclical process of data analysis



▪ *Recording and transcribing the data*

As Lacey and Luff (2001) state, almost all qualitative inquiries involve some degree of transcription. Flick (2002) points out that transcriptions have different degrees of

---

<sup>146</sup> NVivo 8 is a software package used for data analysis. NVivo, like other similar computer programmes for analysing qualitative data, does not do the thinking behind the complex process of data analysis. It is just a tool provided to researchers which facilitates the organisation, analysis and presentation of qualitative information.



exactness depending on the type of research. He suggests that the most reasonable is to transcribe only as much and as exactly as is required by the research question.

I recorded the different collective memory-work sessions and the interviews held in each institution after seeking informed consent from participants. I transcribed the discussions verbatim, including some non-verbal cues and protected the anonymity of the participants.<sup>147</sup> The transcriptions have been a fundamentally important tool to start organising and analysing the data of this research.

- *Organising the data*

Creswell (2007) emphasises the importance of organising the data using file folders, index cards or computer files. I stored the data in Word files organised in different folders from each institution. Taking into account critical ethical considerations, all the files contained in these folders protect the anonymity and confidentiality of research participants using pseudonyms.

- *Becoming familiar with the data*

The data analysis proceeds by trying to get a sense of the database produced (Creswell, 2007). Lacey and Luff (2001) suggest that qualitative researchers need to listen to the recordings, and read the transcriptions and field notes several times before commencing the process of coding. In this stage, writing research memos is crucial to understanding and interpreting the data which emerges from the research.

Research memos are described by Glaser (1992, p. 108) as “the theorizing write-up of ideas as they emerge, while coding for categories, their properties and their theoretical codes.” Memos are an integral part of and a potentially useful technique for qualitative analysis of data. They are constantly revisited and changed, and always treated as valuable sources of data (Richards & Morse, 2007). The generation of the researcher’s story can be made by rearranging the memos and field notes and drawing a picture of the overall data.

---

<sup>147</sup> Please refer to section 6.6 of this chapter about research ethical considerations.

I developed different types of memos which helped me organise and reframe ideas, themes and codes; establish relationships among themes and codes; refine my thinking on social learning for sustainability; construct indicators; and take informed decisions during the whole research process.<sup>148</sup>

- *Developing and comparing codes and categories*

Once researchers are more familiar with the data, they begin allocating preliminary codes or categories<sup>149</sup> to lines or paragraphs of the transcripts, journal entries and research memos. Strauss and Corbin (1990, p. 57) understand the coding process as “representing the operation by which data are broken down, conceptualized, and put back together in new ways.”

The preliminary codes and categories are compared and refined as the data analysis advances into existing or new codes. Creswell (2007) points out that researchers usually start developing a long list of codes only to finally regroup them into a shorter one. Glaser and Strauss (1967) recommend recording all the decisions taken on the coding process in research memos, and explaining the reasons why one piece of transcript will now fall into another code.

In my research, I used emergent codes from the transcripts, utilising both ‘in vivo’ and my own labelled codes, depending on how the information was explained by the participants.<sup>150</sup> It is important to note that I did not code the information from each institution separately, as my research does not seek to compare case studies.

---

<sup>148</sup> Examples of research memos can be found in appendices 6, 7 and 8.

<sup>149</sup> I use these two terms interchangeably (Creswell, 2007).

<sup>150</sup> The coding process can be developed using a framework of analysis in which researchers have established a priori some codes that they already know that they will explore further; or using emergent codes – researchers start coding as they read the transcript. Researchers can choose to use ‘in vivo’ codes (using the same words that the research participants have used) or to utilise their own code labels (the researcher chooses the name of the code that can describe ad hoc the information).

- *Identifying and comparing themes*

Creswell (2007) suggests that a common form of analysis consists of classifying the tentative codes into a manageable list of themes. He suggests developing between five to seven broader themes which are seen as a 'family' of themes and sub-themes, and which help to reduce the information to write the final narrative.

As an example, Williams (2008), in her PhD study, assigned different codes to clusters of comparable data. These were then arranged in an informal matrix of categories or themes. She added new themes as more data were generated. She states that the coding process was first seen as a linear process, but evolved into an iterative or cyclical process of coding, reflecting, 'memo-ing' and writing notes.

I developed themes which could give concrete answers to the research questions identified by my study. I engaged in comparing themes and codes looking for similarities and concordances, differences and contradictions. To deal with my own false consciousness, I tried to ensure the quality of the data triangulation process using a great source of validity strategies.<sup>151</sup>

- *Sharing insights*

Lincoln and Guba (1985) suggest that, in this final stage of data analysis, researchers explain the lessons learned from reviewing and analysing the data of their studies. In this phase, researchers step back and construct coherent and informed meanings from the information gathered (Creswell, 2007).

I present the emergent themes in a discussion of the findings in chapter 8. The writing up of findings takes into account voice, pluralism and diversity from research participants of each in-depth case study using their real quotes.

---

<sup>151</sup> See 6.5.2 where the process of triangulation is further explained.

- *Validating and extending insights*

The next section of this chapter fully describes the validation criteria and strategies selected to ensure rigour and quality of the research process and data analysis. As an example, I have used validation strategies such as member checking to ensure that the interpretation of the findings is trustworthy and accurate.

Reflexivity was a core research exercise to deal with the researcher's and participants' biases, assumptions and false consciousness. I have tried to acknowledge these assumptions in all the different research cycles.

## **6.5 RESEARCH QUALITY AND VALIDITY**

Research quality and validity have always been contested issues in qualitative research as the concepts are borrowed from quantitative traditions (Burke Johnson, 1997; Seale, 1999). At current stage, many perspectives on validation criteria are used among qualitative scholars (Creswell, 2007). Some researchers use qualitative terminology which completely differs from the quantitative tradition (Denzin & Lincoln, 2005; Lather, 1993; Lincoln, 1995). For instance, Lincoln and Guba (1985) prefer to use the term 'trustworthiness' to refer to the quality and validity of qualitative studies. These researchers have proposed their own four criteria<sup>152</sup> for qualitative inquirers. Other researchers have combined and summarised different perspectives on validity which exist in the literature (Whittemore et al., 2001); have used metaphorical reconceptualisations of validity as a crystal (Richardson & Adams St. Pierre, 2005); or have denied the use of validity and reliability because the epistemological and ontological assumptions of qualitative and quantitative research are incompatible and, thus, the use of these terms should be neglected (Wolcott, 1994).

I use the term 'validity' because I believe that it is a recognised concept from its long history in the research vocabulary. I have selected appropriate validation strategies to

---

<sup>152</sup> The criteria defined by Lincoln and Guba (1985) include: (i) credibility (plausibility); (ii) transferability (context embeddedness); (iii) dependability (stability); and (iv) confirmability (value explication and reliance of data).

deal with the validity threats of this study. I also acknowledge that validity is only one aspect of assessing the quality of a qualitative inquiry. To enhance the trustworthiness of this study, I have also addressed reflexivity issues because they form part of the epistemological basis of critical social research and make it possible to deal with issues regarding research control, power, false consciousness and self-awareness. They also assist in clarifying and coping with research ethics (Guillemin & Gillam, 2004).

### **6.5.1 Enhancing research quality and trustworthiness through reflexivity**

The concept of reflexivity has become popular and well accepted in qualitative and critical social research in recent times (Bourdieu, 1990) as well as in learning for sustainability studies (see, for example, PhD studies by Barasa Atiti, 2008; Reed Johnson, 2009). Reflexivity is an effective theoretical basis to explore the relationship between the researcher and the object of study (Brannick & Coghlan, 2006), as well as to position the researcher regarding the status of knowledge and truth (Hall, 1996). Although being widely spread across different research fields, the concept of reflexivity has become vague in the research arena (Brannick & Coghlan, 2006; Maton, 2003). It has also lost part of its theoretical value as it is sometimes used to describe the outcomes of social actions, rather than to describe the intentions of the research subjects (Bourdieu & Wacquant, 1992).

The body of literature around reflexivity has described it as “from self-reference to self-awareness to the constitutive circularity in accounts or texts” (Bourdieu & Wacquant, 1992, pp. 37). In this research, I draw upon Anthony Giddens’ and Pierre Bourdieu’s conceptions of reflexivity because they describe it meticulously using different scales of analysis. Their conception of reflexivity provides a basis to reflect on my own ontological and epistemological commitments in this critical research.

According to O’Brien (1999), Giddens mainly defines reflexivity as two distinctive senses. First, reflexivity refers to action, or the ‘reflexive monitoring of conduct’ of individuals. This type of reflexivity is intrinsic to all human beings and activity, and is non-transformative as it reproduces the existing structures of the social world (Giddens, 1991). Second, reflexivity refers to knowledge and meaning, and deals with the scale of knowledge and information available in society. The social science is reflective as the

knowledge it generates is used to transform the social life (Bourdieu & Wacquant, 1992).

Bourdieu's (1990) epistemic reflexivity is closely linked to Giddens' (1991) reflexivity. However, Bourdieu's main distinction and innovation is the emphasis on conceiving reflexivity as a requirement of sociological studies and a theory of intellectuals who produce a "dominated form of domination" (Bourdieu & Wacquant, 1992, pp. 38). Bourdieu basically conceives knowledge claims taking into account three main relationships: the social relationship between the subject and the knowledge claim; the epistemic relationship between the knowledge claim and its object; and the objectifying relationship between subject and object (Maton, 2003). Bourdieu's reflexivity is not only focused on the unconscious of the individual as a researcher, but also and, more distinctively, on the social and intellectual unconscious. Therefore, he believes that a reflexive practice should uncover the power relations inherent to social scientists and social theory, which influence this objectifying relation between the subject and object, or knower and known. Bourdieu also claims that reflexivity is a "collective enterprise," not a narcissistic practice, and seeks to provide an "epistemological security of sociology" (Bourdieu & Wacquant, 1992, pp. 36). He suggests three types of bias which researchers should deeply explore throughout their research processes:

- The social origins of the researcher (class, gender, ethnicity, etc.), which can be controlled by mutual and self criticism.
- The position that the researcher occupies in the academic field and, thus, the field of power.
- The intellectual bias which attracts the researcher to see the world as significations to be interpreted, rather than problems to be resolved.

In my research, reflexivity involves clarifying how research participants and I have established relationships between social learning and institutional culture regarding our positions, cultural contexts, and understandings about the politics of sustainability in higher education. I have to acknowledge I found it complex to continually uncover the individual and social unconscious in ways to ensure that the reflection process was not influenced by the same unconscious. However, I agree with Lincoln (1995, p. 283) that

reflexivity enables the researcher “to begin to uncover dialectical relationships, array and discuss contradictions within stories being recorded.”

Just as in Barasa Atiti’s (2008) PhD study, I hope that the use of a multi-method approach and triangulation of data has enhanced reflexivity, as it makes it possible to reflect deeply on the contradictions and correspondences from the data generated in the research process.

As Brannick and Coghlan (2006) suggest, I also employed a research diary to record the reflections regarding the research participants’ and my own values and interests (Lincoln & Guba, 1985).

### **6.5.2 Quality and validation strategies**

Quality and validation strategies are used in qualitative research to overcome the validity threats of research studies (Whittemore et al., 2001) and ensure that the validity criteria selected by the inquirer are translated into practice (Creswell, 2007). I opted for four main strategies and techniques to ensure that the validity criteria were met in the different research processes of my study.

- *Intensive and prolonged engagement in the field*

A prolonged period of engagement in the field and data collection can help identify false associations and premature theories (Maxwell, 1998). According to Creswell (2007), it helps to (i) build a trustworthy relationship with research participants; (ii) understand the culture and context of the setting being studied; and (iii) check the assumptions and beliefs introduced by the researcher and research participants.

In this research, the data collection took place from February 2009 to September 2011 (including the pilot study). This assisted me in the intention of building a strong and trustworthy relationship with research participants and in enhancing credibility and authenticity issues.

- *Member checking*

As Lincoln and Guba (1985) state, member checking consists of soliciting feedback from the co-researchers about the data that they have generated with the researcher. Maxwell (1998) identifies this process as critical as it enables the researchers to identify their own assumptions and biases. It also contributes to the commitment to seeking more democratic research exercises (Smith, 1996).

I shared a part of the findings with co-researchers in the last session of collective memory-work. The totality of the findings and the indicators developed were shared with all the co-researchers in September 2011.

- *Triangulation of methods and data*

Triangulation of methods consists of using multiple different sources, methods and techniques to corroborate the evidence of the study (Creswell, 2007). Qualitative researchers tend to triangulate the data to strengthen “the claims they make, of getting a richer or fuller story, and not a route to an absolute truth” (Smith, 1996, p. 194). The process of triangulation enables the researcher to look for contradictions and correspondence of data in the different methods used. In my view, finding contradictions in the data does not mean a failure of the inquiry; it makes it possible to show the complexity of real life situations and diversity of ideas.

The design of this research has been underpinned by a multi-method approach to enable the triangulation of data using different perspectives. The use of different research sources and diverse forms of communication with research participants has enhanced the process of corroborating evidence on social learning for sustainability in higher education. In chapter 8, the process of triangulation is illustrated through providing evidence obtained through different sources.

- *Use of rich and thick descriptions*

According to Creswell (2007), rich descriptions of the research process enable readers to identify whether the research could be applied in other contexts. My research aims at



providing the reader with an opportunity to engage in an interpretative dialogue with the data collected (Smith, 1996). To achieve this aim, I have described the research process and design as accurately as possible, giving details of the different cycles and phases of the research and the challenges which I have overcome (see chapter 7).

### 6.5.3 Addressing research validity

As Creswell (2007) and Connelly and Clandinin (1990) suggest, researchers need to seek and defend the criteria which they think are more appropriate to enhancing the quality of their studies. I have chosen the quality criteria defined by Whittemore et al. (2001) because they are flexible enough to fit the requirements of critical social research and are helpful in overcoming some of the threats of conducting research which involve a wide variety of research participants. Whittemore et al. distinguish two types of criteria: primary and secondary. Primary criteria are credibility, authenticity, criticality and integrity, and are necessary to all qualitative research. These authors also define a wide range of secondary criteria which are flexible to the different nature of qualitative research studies. These authors suggest that critical social theorists should use the secondary criteria of sensitivity, explicitness and vividness, which I have addressed in this study. Table 6.1 illustrates how I have addressed research validity.

**Table 6.1 Addressing research validity**

Criteria		Definition	How I addressed these criteria
Primary	Credibility and authenticity	<ul style="list-style-type: none"> <li>- The findings of the research reflect the experience of research participants (Lincoln &amp; Guba, 1985).</li> <li>- Researchers are aware that they can influence the opinions and perspectives from participants.</li> </ul>	<ul style="list-style-type: none"> <li>- Authenticity issues were discussed with research participants. They decided what information they wanted to make available and how they wanted to make it available.</li> <li>- The findings and indicators were subjected to co-researchers. This was made in the last session of collective memory-work and through email contact.</li> <li>- Pluralism of ideas has been achieved through triangulation of methods and data.</li> </ul>
	Criticality and	<ul style="list-style-type: none"> <li>- The researcher's assumptions,</li> </ul>	<ul style="list-style-type: none"> <li>- I have adopted a reflexive attitude in the different research cycles of</li> </ul>

	integrity	<p>interpretations and knowledge background can influence the research findings.</p> <ul style="list-style-type: none"> <li>- Researchers need to be self-critical and seek integrity in all the cycles of the research. It is important that they look for discrepant data and consider alternative understandings of the findings (Whittemore et al., 2001).</li> </ul>	<p>the research. I have tried to make this explicit in my writing.</p> <ul style="list-style-type: none"> <li>- The research and findings were subjected through continuous validity checks with research participants and my supervisors.</li> <li>- I tried to acknowledge possible biases from the study.</li> </ul>
Secondary	Sensitivity	<ul style="list-style-type: none"> <li>- The research needs to consider the sensitive nature of participants and the institutions in which the research is conducted (Whittemore et al., 2001).</li> <li>- Ethical considerations need to be explicitly acknowledged and addressed in the research design and the research writing-up (Israel &amp; Hay, 2006).</li> </ul>	<ul style="list-style-type: none"> <li>- I have included as part of the research important ethical considerations such as informed consent, and negotiation of privacy, confidentiality and anonymity (see section 6.6).</li> </ul>
	Explicitness	<ul style="list-style-type: none"> <li>- It is achieved by describing the methodological decisions, interpretations of data and the biases of the researcher.</li> </ul>	<ul style="list-style-type: none"> <li>- I used my research journal and research memos to record all the decisions taken during the research process, from the research design, to data collection and interpretation, and findings presentation.</li> <li>- In chapter 7, I make explicit all the decisions made to the reader.</li> </ul>
	Vividness	<ul style="list-style-type: none"> <li>- It refers to how the research and the findings of the research are presented.</li> </ul>	<ul style="list-style-type: none"> <li>- I have provided thick descriptions of the research process and findings using a clear style (see chapters 7 and 8).</li> <li>- Although being a challenging exercise, I have tried to analyse my own writing and ask my supervisors to challenge me in this endeavour.</li> </ul>

## 6.6 ETHICAL CONSIDERATIONS

Ethical and political dilemmas are part of the moral daily practices in all types of research (Guillemin & Gillam, 2004). Ethical behaviour is a critical endeavour of social researchers to not only respect the participants of the research, but also to safeguard the security of social science and qualitative inquiry (British Sociological Association, 2004; Israel & Hay, 2006). The recognition of the value of social science is always “accompanied by heightened sensitivity [of researchers] to conduct social science responsibly” (Fisher & Anushko, 2008, p.95).

In December 2008, I submitted my research degree proposal to the Research Committee of the University of Gloucestershire. In this document, I acknowledged the importance of addressing ethical considerations such as informed consent, anonymity and confidentiality. However, I realised how important research ethics were, when the University’s Committee asked me to revise them in my proposal. The following email extract sent by the Chair of the University’s Research Ethics Committee illustrates this concern:

“Concerns regarding the impact of a collective-memory approach on the right of participants to withdraw once the project starts were raised. [...] There is a concern that an assumption of a political commitment in the selection/recruitment criteria may have led to an assumption that no-one will want to withdraw, and that participants might feel obliged to continue even if they want/need to withdraw.” (9 March 2010)

In the next sections, I clarify how I have addressed issues related to informed consent, and privacy and confidentiality.

### 6.6.1 Informed Consent

Free and informed consent entails a moral commitment and critical effort from the researcher as it is not just “a mere agreement or acceptance of participation within an arrangement” (University of Gloucestershire, 2008, p. 9). For participants to voluntarily decide whether to form part of the study requires that they fully understand the nature

of the research and the ways in which it will be conducted. They also need to understand how they will be involved in the research process. Fisher and Anushko (2008, p. 99) state that such information needs to include: (i) the purpose, duration, and procedures of the research; (ii) the right to decline or withdraw from participation; (iii) consequences of withdrawal; (iv) risks, discomforts and adverse effects; (v) any prospective benefits to participants or society; (vi) extent and limits of confidentiality; (vii) incentives for participation; (viii) contact person for further questions regarding ethics; (ix) opportunities to ask questions during the entire research process in which they are involved.

In my research, informed consent has been a critical endeavour during the whole research process. I have tried to always ensure that the research participants fully understood my study. In the recruitment process of co-researchers, I explained clearly the intentions of my study and the ways I wanted to involve them. The first session of collective memory-work was exclusively focused on explaining in more detail my research and to discuss collaboratively the ethical considerations of the study. In this session, co-researchers also signed an information and consent form.<sup>153</sup> I also explained carefully my research to all the interviewees of my research and asked them to sign another information and consent form.<sup>154</sup>

### **6.6.2 Negotiating privacy, confidentiality and anonymity**

Fisher and Anoushko (2008, p. 99) state that showing respect to the research participants entails “a moral concern for [their] autonomy and privacy rights.” To address privacy, confidentiality and anonymity in this research, I have followed the procedures from *The Research Ethics Handbook of the University of Gloucestershire* (University of Gloucestershire, 2008). Firstly, I asked co-researchers and interviewees whether they were comfortable if I recorded the discussions and interviews. Secondly, the anonymity and privacy of the research participants has been respected by keeping

---

<sup>153</sup> A sample of information and consent form for co-researchers at the University of Bristol can be found in appendix 3.

<sup>154</sup> A sample of information and consent form for interviewees at the University of Bradford can be found in appendix 4.

their real names, and personal information confidential by using pseudonyms. The real information is kept confidential and stored in a safe place. However, it is my obligation as a researcher to remind co-researchers that some of their characteristics and positions in their institutions can be difficult to totally disguise. I included this critical issue as an item to discuss with the collective memory work-groups.

## **6.7 SUMMARY**

This chapter has reported on the different research methods employed to capture information, the strategies used to analyse the information, the validity criteria used and the ethical considerations of the study. The following key points summarise the methodology of my research:

- 1) Critical social theory has informed a research which has taken place in three higher education institutions in the UK which are recognised as leading organisations in providing opportunities for sustainability.
- 2) At each institution, a collective memory-work group formed by members of staff (academic, support and administrative) was set up to reflect on social learning for sustainability experiences and institutional culture. This chapter has outlined the key concepts, assumptions, rules and procedures from this core research method.
- 3) As my research assumptions and interests are distinctive from the creators of collective memory-work, I have reappraised the method to suit my research purposes.
- 4) My research acknowledges the importance of contrasting diversity of voices and ideas. The data generated by collective memory-work has been triangulated with data obtained from other data sources such as interviews, documentary review, researcher's journal as well as information provided by key informants.
- 5) This chapter has outlined the cyclical processes of data analysis in which the information generated in each higher education institution has been examined. I

have used a thematic analysis to explore and interpret the data. Nvivo 8 has been a useful tool to manage and organise the data as well as to code the information.

- 6) This chapter has also highlighted the ways research quality and validity has been enhanced. I have addressed issues of quality through exploring and practising reflexivity. The following strategies have also been used to overcome validity challenges: (i) intensive and prolonged engagement in the field; (ii) member checking; (iii) triangulation of methods; and, (iv) use of rich and thick descriptions. In addition, I employed Whittermore et al. (2001) primary and secondary criteria to address validity threats.
- 7) Finally, I have highlighted the main ethical considerations which have been addressed during the research process: informed consent, confidentiality and anonymity.

## **CHAPTER 7 RESEARCH DESIGN, STAGES AND PROCESSES**

### **7.1 INTRODUCTION**

The research design is the sequence of processes which connects the empirical evidence to the aims, research questions and findings of an inquiry (Yin, 2006). It, thus, provides a structure where my research story can be explained in a logical and understandable way for the reader.

This chapter outlines the research design and reports on how the study was conducted using a critical social methodology as discussed in chapter 5. The first steps and decisions to embark on a research study on social learning for sustainability in higher education are presented. I then describe the two main data collection stages of this inquiry which occurred between February 2009 and September 2011:<sup>155</sup> (i) the pilot study; and, (ii) the case studies. The first stage outlines the needs for a pilot study, the process of conducting the exploratory research at the University of Gloucestershire, and the lessons learned captured throughout the process. The second stage reports on the different cycles which I planned and went through to access the Universities of Bradford and Bristol, engage co-researchers to participate in my research, form a collective memory-work in each institution, and involve the group in identifying contextual issues related to social learning processes and sustainability within their institutions. These two research stages have been critical to construct indicators of social learning for sustainability in higher education. The indicator framework and its validation process is explained in chapter 9. Finally, in this chapter, key reflections and lessons learned from conducting this research using a critical social methodology are highlighted.

### **7.2 EARLY RESEARCH DECISIONS**

The research design starts when a theme and focus area is identified and a philosophical framework has been outlined (Creswell, 2007). The impetus of my doctoral thesis has

---

<sup>155</sup> Whereas the core research sessions and interviews took place until September 2010, I kept in touch with research participants to clarify the data arising from the research and share the indicators developed until September 2011.

always been to explore social learning in higher education because I believe that it can provide university staff with an authentic and meaningful sustainability experience and can shape institutional cultures towards sustainability. The critical social paradigm has assisted me in challenging power relationships likely to exist in research processes; conducting a participative, self-conscious, reflective and transformative research; and, facilitating social emancipation processes.

This section describes in detail the research design, criteria and strategies which I used to undertake my research.

### **7.2.1 Outlining the research design and defining research criteria**

The first decision I took regarding the design of my inquiry was that I would look at social learning experiences of staff in higher education. Members of staff play a very important role in transforming and shaping the values, culture and practices of higher education institutions. Since staff usually spend more time in their institutions than students (as the latter leave the university when they finish their degrees) they can provide meaningful information about the culture of their institutions. This decision would facilitate the exploration of the dialectical relationships likely to exist between social learning and institutional culture in higher education.

The second decision was to explore social learning through capturing real stories and lived experiences of staff within their institutions in a collaborative, transformative and creative approach. The core method used was collective memory-work as explained in the previous chapter (see section 6.3.1). This was a challenging, but also important work to undertake as this research method has never been used in learning for sustainability research before. In addition, it would be the first time that I, as a young and novice researcher in this field, would facilitate a collaborative and participative research process. For all these reasons, a pilot study was required to investigate the possibilities of using this method as a research technique for learning for sustainability. The pilot study would also assist me in developing the skills needed to facilitate a piece of participatory research in the area of social learning for sustainability.



The research criteria underpinning the selection of members of staff to act as co-researchers in a collective memory-work group are the following:

- Co-researchers with differing responsibilities including administrative, support, academic and senior management.
- Co-researchers who had changed their understanding of, or commitment towards, sustainability as a result of working at their institution.<sup>156</sup>
- Co-researchers who had been engaged with the sustainability agenda for some time to enrich discussions of social learning processes in this area.

Finally, my first supervisor assisted me in the overall research design which I also shared with my second supervisor, who gave me critical feedback on how to improve it. The study was going to use a case study strategy to explore the social learning process in more depth. I selected three higher education institutions which had made an explicit commitment to provide sustainability learning opportunities to students and staff and which were actively engaged in learning for sustainability.<sup>157</sup> This way, I could guarantee that opportunities for social learning processes in the area of sustainability were likely to exist within these institutions. This assumption would need to be explored during my research. I decided that I would undertake my research in the UK considering time constraints and facilities to access institutions. I finally selected the University of Bradford<sup>158</sup> and the University of Bristol<sup>159</sup> as in-depth case studies and the University of

---

<sup>156</sup> As explained later in this chapter, this became a significant issue as I found it difficult to recruit staff who followed this criterion. The selection process of co-researchers was highly influenced by the key informants selected at each institution.

<sup>157</sup> Please refer to chapter 8, section 8.2, where I specify what sustainability areas I was interested in when selecting these institutions as case studies.

<sup>158</sup> The University of Bradford has been nationally recognised for its work on sustainability through the Times Higher Education Award 2009 for 'Outstanding Contribution to Sustainable Development' and the International Sustainable Campus Network Awards 2010. The University has been in the top 15 positions in the People&Planet Green Table for 2009, 2010 and 2011. It was awarded with a Green Gown Award in 2009.

<sup>159</sup> In 2007, the University of Bristol was the winner of the Times Higher 'Outstanding Contribution to Sustainable Development'; was highly commended by the National Energy Efficiency Awards; and, winner of the Green Gown Award in the category of 'Courses' and highly commended in the category of 'Energy and

Gloucestershire<sup>160</sup> (my own organisation) as the pilot study. These institutions were also selected for their accessibility, as my first supervisor was able to put me in contact with members of staff and senior managers who could assist me in conducting the research in each university.<sup>161</sup> In each institution, I selected between five and eight co-researchers following the criteria previously defined and engaged them to form part of a collective memory-work group.

I acknowledge that the methodological approach of using collective memory-work in these three institutions has inevitably influenced the selection of co-researchers and subsequently this has impacted on the research findings. Collective memory-work requires a small group of co-researchers in order to engage them in an active process of reflecting on their own social learning experiences. My research finds it important to focus on the qualitative and reflective process of collective memory-work, but it also recognises that the number of social experiences captured through this method does not represent all the different types of social learning activities occurring in an institution. For this reason, the information obtained from collective memory-work was also complemented and triangulated with other research methods, such as interviews and documentary reviews. This helped to enhance the validity and trustworthiness of the research.<sup>162</sup>

### **7.2.2 Research Strategy**

The research design follows three different core stages. The first stage consists of a pilot study to explore the possibilities, critical issues, problems and validity threats of

---

Water Efficiency.’ The University of Bristol has been in positions 38, 26, 32 and 68 in the People&Planet Green Table in the period of 2008-2011.

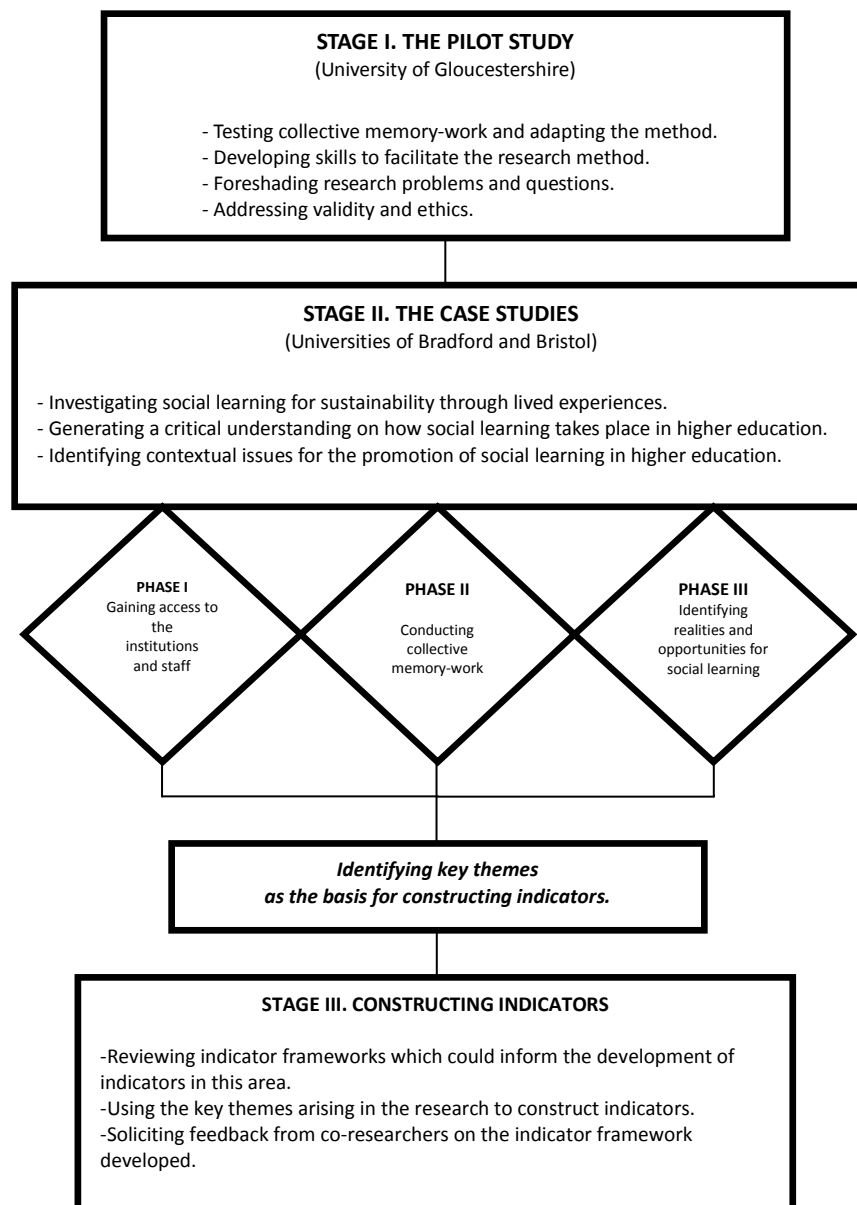
<sup>160</sup> The University of Gloucestershire was the first university in England to achieve an ISO 14001; was ranked first at the People&Planet Green League in 2008 and in the top five from 2009-2011; was ranked first for the Teaching, Learning, Research and Knowledge Exchange (TLR & KE) section of Universities that Count (UtC) in 2010; and was the winner of a Green Gown Award in 2008 and 2010.

<sup>161</sup> More information about these universities is provided in appendices 6, 7 and 8, and chapter 8, section 8.2.

<sup>162</sup> Please refer to chapter 6, section 6.5, for more information about triangulation of methods and data and validity strategies used in my research.

conducting collective memory-work to investigate social learning for sustainability processes in higher education. The second stage seeks to engage co-researchers from the University of Bradford and Bristol in exploring social learning processes within their institutions and identifying opportunities for social learning in higher education. Stage three is designed to guide the construction of indicators of social learning which could assist higher education institutions in improving their sustainability performance and developments through social learning processes. The last stage of this research is explained in chapter 9. The research stages and core processes are represented graphically in figure 7.1.

**Figure 7.1 Core stages and cycles of the research**



During my PhD, my supervisors have always encouraged me to share the aims of the study, research design and results with other PhD students and academics in the field. Subjecting my research to the scrutiny of peers aimed to ensure quality and validity related to *criticality* and *integrity* (see section 6.5.3). It also assists in reframing critical issues about the methodology and research processes as well as reflecting on the values and limitations of my inquiry.<sup>163</sup>

Having explained the process of designing this study, the next section describes in more detail the processes which took place in the pilot study and the lessons learned which I captured in order to undertake my research at the Universities of Bradford and Bristol.

### **7.3 STAGE I: THE PILOT STUDY**

The design and use of a pilot study to inform empirical research is considered to be an important mechanism to foreshadow problems and raise critical questions about the research goals and questions; identifying gaps and wastage in data collection; addressing issues related to validity, ethics and representations; as well as reflecting on and redefining the researcher's role in the inquiry (Sampson, 2004).

The research methodology proposed for this study presented some challenging questions regarding the research process and validity which needed to be addressed before undertaking the study at the Universities of Bradford and Bristol. As mentioned earlier in this chapter, I was particularly concerned about the core research technique of this study, collective memory-work, which has never been employed to investigate issues related to sustainability. This is why I found it crucial to design an exploratory pilot study which could provide me with a platform to reflect more deeply on the selection of co-researchers, research process, philosophical assumptions, and validity of the method as well as its suitability for my study. According to Cargan (2007) and Sampson (2004), the pilot study can also help to resolve ethical issues of consent and confidentiality and show whether the research is yielding the desirable information.

---

<sup>163</sup> Please refer to appendix 5 where I explain in more detail how I subjected the research design to peer review critiques.

The pilot study constituted the first stage of inquiry and informed the research planning and approach. It took place between March 2009 and June 2009 at the University of Gloucestershire, as it fulfilled the criteria I previously defined to select higher education institutions. I also selected this institution as, according to Flick (2002), gaining access to the field under study is crucial in qualitative research. I could easily access this institution and conduct my pilot study as I was working and conducting my PhD within its International Research Institute in Sustainability (IRIS). I also had a pre-understanding of the University's work and commitment regarding sustainability which provided me with an advantage to form a key informant group, select co-researchers as well as to explore social learning processes and issues regarding institutional culture (Gummeson, 2000). However, this advantage could also become a challenge in reviewing and critiquing assumptions and exploring power relations. I tried to make reflexivity an integral part of my study using a researcher's journal and developing research memos which assisted me in reflecting on and gaining insights into my previous knowledge and experience at this institution.<sup>164</sup>

The following sub-sections highlight challenging processes which I faced when conducting collective memory-work at the University of Gloucestershire and summarise the lessons learned captured throughout this process. More detailed information about the pilot study can be found in appendix 6.<sup>165</sup>

### **7.3.1 Phases and processes of the pilot study**

The pilot study involved three different phases: (i) forming a key informant group; (ii) forming a collective-memory-work group; and (iii) conducting the three collective memory-work sessions. In table 7.1, each of these phases are summarised and described. I have used pseudonyms to conceal the participants' identities in line with the

---

<sup>164</sup> Please refer to chapter 6, for more information about how I addressed reflexivity and used the researcher's journal and memos.

<sup>165</sup> Appendix 6 gives the details on the one-on-one meetings with members of staff and provides information about co-researchers and the collective memory-work sessions. It compiles all the programmes for the different sessions of collective memory-work and documentation given to co-researchers. Finally, it summarises the key issues emerging from the sessions and gives an example of a research memo.

ethical requirements for this research.<sup>166</sup> The term *GLOS-* indicates that the university which I am referring to is the University of Gloucestershire. The term *-ki* means that I am referring to a key informant. The term *-c*, to a co-researcher. For example, *GLOS-ki1* is used for concealing the identity of a key informant at the University of Gloucestershire. The code *GLOS-c1* is used to refer to a co-researcher at the University of Gloucestershire.

**Table 7.1 Description of the phases of the pilot study**

Phase		Description and observations
Forming a key informant group (9 – 26 March 2009)		<ul style="list-style-type: none"> <li>- Three members of staff (GLOS-ki1, GLOS-ki2 and GLOS-ki3), from the Sustainability Team of this institution, were selected as the key internal group.</li> <li>- The group assisted me in selecting co-researchers who met the criteria I previously defined.</li> </ul>
Forming a collective memory-work group (26 March - 21 April 2009)		<ul style="list-style-type: none"> <li>- The process of forming a collective memory-work group lasted approximately one month.</li> <li>- I emailed nine members of staff (three academics –one academic was also a senior manager, five support staff and one administrator) proposing to meet them for an informal chat.</li> <li>- All potential co-researchers selected stated that they had always had an interest in sustainability. Six of them stated that their real commitment to sustainability flourished while working at this University. Three members of staff stated that they were already committed before starting to work at this University.</li> <li>- This heterogeneous group of potential co-researchers helped me to identify whether the criteria defined for selecting participants was adequate for this research.</li> <li>- I explained the focus of my research and invited potential co-researchers to participate in the pilot study. Eight of them agreed to participate, but one of the academic staff withdrew before the research started. Enough members of staff had been recruited to deal with possible withdrawals during the process.</li> <li>- The final collective memory-work group was constituted of (see appendix 6):               <ul style="list-style-type: none"> <li>• two academics: GLOS-c1 and GLOS-c6 (the latter was also a senior manager)</li> <li>• four support staff: GLOS -c2, GLOS-c3, GLOS-c4 and GLOS-c7</li> <li>• one administrator: GLOS-c5</li> </ul> </li> </ul>
Collective memory-work sessions (6)	Session 1: Introduction (6 May 2009, 12-13.30h)	<ul style="list-style-type: none"> <li>- Session 1 consisted of providing information about the study and introducing the concept of social learning and the method of collective memory-work. Co-researchers were also engaged in discussing their individual learning stories about sustainability. The terms of participation and ethical issues were also negotiated.</li> </ul>

<sup>166</sup> See section chapter 6, section 6.6, to learn more about how I addressed the ethical considerations of my research.

May–21 June 2009)		<ul style="list-style-type: none"> <li>- By sharing our learning stories on how we had developed our understanding and commitment to sustainability, the group was spontaneously immersed in a deep discussion on social and transformative learning in higher education.</li> </ul>
	Writing stories I	<ul style="list-style-type: none"> <li>- Between session 1 and session 2, each co-researcher committed to write a story about: <i>A social moment or event which happened within the institution and outside the formal curriculum which shaped or changed their understanding or commitment towards sustainability.</i></li> <li>- I asked co-researchers to send me the story one week before the second session.</li> <li>- I received five stories before our next gathering.</li> <li>- GLOS-c5 could not write the story because of time constraints. GLOS-c2 withdrew from the process due to other work commitments.</li> </ul>
	Session 2: Collective analysis of learning stories I (3 June 2009, 12-2h)	<ul style="list-style-type: none"> <li>- Co-researchers shared their stories to the rest of the group. Each co-researcher read the story aloud. Then, we discussed each story for 10-20 minutes.</li> <li>- Many stories were focused on seminars and conferences, which made me realise that I had not been clear about my objectives and what I meant by social learning.</li> <li>- Some of the rules about writing the story were not followed by co-researchers.</li> <li>- These critical issues needed to be addressed before undertaking the research in Bradford and Bristol.</li> </ul>
	Writing story II	<ul style="list-style-type: none"> <li>- Between session 2 and session 3, I asked co-researchers to re-write their stories.</li> <li>- I only received one story from GLOS-c4 before the next meeting.</li> <li>- Only four co-researchers confirmed the attendance for session 3.</li> <li>- GLOS-c6 and GLOS-c3 could not attend the third session because of other work commitments.</li> </ul>
	Session 3: Collective analysis of learning stories II (21 June 2009, 12-13.30h)	<ul style="list-style-type: none"> <li>- I had to change the programme planned for session 3 as only one co-researcher re-wrote the story.</li> <li>- The session consisted of a discussion on the constraints of and opportunities for social learning for sustainability at the University.</li> <li>- An alternative programme for session 3 was needed in case of loss of data or participation happened again at the Universities of Bradford and Bristol.</li> </ul>

### 7.3.2 Reflections on the pilot study

In the process of forming a collective memory-work group and during the collective memory-work sessions, I provided co-researchers with ways to reflect on their sustainability learning experiences at the institution and to challenge their own sustainability thinking. Collective memory-work was particularly powerful to provide co-researchers with a meeting space where they could safely express and share their opinions about sustainability and learning issues but, more importantly, where they

could critically unpack and analyse their own experiences on social learning for sustainability in a collaborative research process. The process of unpacking assumptions, raising political issues and challenging research power structures through dialogue was aligned with the key concepts of critical social theory and Habermasian theory in which this doctoral study is based upon. For this reason, I consider that collective memory work is a valuable method for critical social research. I also believe that collective memory-work can be potentially useful in sustainability research as it encourages diversity (different perspectives can be heard in a collaborative research process), participation and negotiation, and has the potential to challenge co-researchers' thinking in the area of sustainability. However, during the pilot study, I experienced some critical issues which needed to be reappraised to undertake this particular study on social learning for sustainability at the Universities of Bradford and Bristol. In addition, I realised that contrasting the data which emerged in collective memory-work with other information obtained using other research sources was key in the research process to ensure quality and validity. Thus, triangulation was important to outline the contradictions and correspondence of data in the different methods used.<sup>167</sup>

My experience agrees with Schratz's and Walker's (1995) reflections that collective memory-work assists in uncovering the processes by which co-researchers develop their commitment to and understanding of sustainability issues through social learning processes. Through the advice of the key informant group and after organising different one-on-one meetings with members of staff, I selected seven co-researchers (academic, support and administrative staff). The one-on-one meetings assisted me in identifying whether the staff selected followed the criteria previously identified. The selection of co-researchers worked especially well during session 1 and 2 where co-researchers shared with the whole group individual social learning stories based on the institutional opportunities for sustainability. However, the discussions were too focused on the individual learning experiences in sustainability rather than the institutional

---

<sup>167</sup> Please refer to chapter 6, section 6.5.2, for more information about the quality and validation strategies used by my research.



opportunities for social learning for sustainability. The following extract from a research memo attests this concern:

“Most co-researchers explained their individual stories of social learning for sustainability. The stories were quite interesting, but no critical reflections were made on the influence of the institution in providing social learning opportunities.”

(Research memo, 3 June 2009)

I realised that, although the pilot study had been an excellent way to learn on how to conduct collective memory-work and gain the skills to facilitate a collaborative research, I had not answered the research questions defined for this study. Before conducting the research in Bradford and Bristol, I had to change several aspects on how I had planned the collective memory-work sessions in the pilot. For example, I needed to change the programmes planned for the sessions and modify the documentation given to co-researchers. I also realised that I had to keep my researcher’s journal and memos up-to-date to reflect constantly on the methodology and information which the research was yielding. In the following extract from the research journal, I reflect on the critical role of this research technique for my research:

“I start to realise how important this research journal is for my research. It is obviously essential to track the different phases and processes of this research. However, more importantly, is that this study requires my private personal voice to analyse how collective-memory work is conducted and state whether this is an adequate method to answer to my research questions.” (Research journal, 11 May 2009)

As explained in the previous chapter (see section 6.3.1), I see strong parallels between Stephenson’s (2007) work and mine in that the collective memory-work group at the University of Gloucestershire and I were not prepared to become real co-researchers because: (i) we did not share the same academic goals; (ii) co-researchers did not have enough time to understand the research objectives; and, (iii) co-researchers were more interested in sharing personal stories than institutional opportunities about social learning for sustainability. Although these issues were complex to address, it would be important to acknowledge them constantly while conducting the research in Bristol and Bradford, as some of them could be resolved during the process. For example, I realised

that in Bradford and Bristol it was important to spend more time with co-researchers individually to enhance the reflective exercise of the process, assist them in the writing of their stories, and make clearer the goals of my research.

### **7.3.3 Lessons learned from the pilot study**

The following lessons learned reflect on the key issues which needed to be resolved before undertaking the research at the Universities of Bradford and Bristol:

- *Selection of co-researchers*

The criteria defined to select co-researchers proved to work in the pilot study. It was important to recruit co-researchers in Bradford and Bristol who had changed their commitment to sustainability while working at their institutions. However, it could prove difficult to identify these potential co-researchers. I could also consider including some members of staff who had already been engaged in sustainability as, because of their long engagement in this agenda, they would be able to raise critical questions about this area and enrich the discussions within the group. In Bradford and Bristol, I would also have to make sure that enough co-researchers were recruited to deal with the possibility of withdrawing. I assumed that I might get around 20% drop out.

- *Information, documentation and training for co-researchers*

One of the reasons why the pilot study did not yield all the expected data was that I was not focused enough on the research questions during the preparation phases and introductory sessions. The problem was that during the pilot study I was not confident enough with the research questions defined for my study. This research memo attests this struggle:

“I have the impression that co-researchers did not understand very well the research questions of my study. I think that the questions are still not clear to me.” (Research memo, 6 May 2009)

More discussions with co-researchers were needed to understand the goals of my research. In Bradford and Bristol, I would need to explain to co-researchers the objectives of this study, research questions and methodology more carefully and clearly.

- *The role of the researcher*

At the University of Gloucestershire, I tried to give space to co-researchers to decide on the issues which they thought were important to discuss regarding social learning and institutional culture for sustainability in higher education. However, co-researchers did not have enough experience or academic understanding in these areas, which led to superficial or unfocused discussions. In Bradford and Bristol, I would need to take a more active role to ensure that the discussions yielded important data related to my research questions. I reflect on my role as a researcher in the last memo I wrote during the pilot study:

“I definitely need to adopt a more active role facilitating the sessions to ensure that discussions are focused on the research questions and objectives of this study.”  
(Research memo, 25 June 2009)

- *Social learning for sustainability stories*

The majority of stories written by co-researchers in the pilot study were about a seminar or a conference related to sustainability which they had attended in the past. I realised that this was a consequence of how I had explained the concept of social learning to co-researchers and the indications and examples that I gave them in order to write their stories. In addition, only two co-researchers (academic staff) wrote their stories in the third person, as suggested by Haug et al. (1987) and Crawford et al. (1992), the creators of collective memory-work.

In Bradford and Bristol, I needed to make sure that co-researchers wrote stories about social learning experiences which had occurred within the informal and social context of the institution, but, more importantly, I needed to upscale co-researchers' thinking regarding social learning. A research memo written after the second collective memory-work session at the University of Gloucestershire reflects on this critical issue:

“The majority of stories were focused on seminars, conferences and informal courses. In the future, I will need to explain to co-researchers that other forms of social learning exist within higher education.” (Research memo, 3 June 2009)

During the research, I would also need to make sure that co-researchers reflected not only on their own individual stories, but on the institutional opportunities for social learning. To do this, it was important that I enhanced the reflective exercise of collective memory-work through organising more individual meetings and kept constant contact through email with co-researchers. More individual guidance on how to write the stories could help co-researchers focus their writings on the research questions defined by my study.

- *Re-writing stories*

Session 3 of the pilot study proved to be unsuccessful because only one co-researcher re-wrote the learning story. At first, I was determined to change the dynamics of session 3 by not asking co-researchers to re-write their stories (Crawford et al., 1992). The research memo I wrote for session 3 of collective memory-work at the University of Gloucestershire attests this initial reflection:

“I think that in Bristol and Bradford this session should be focused on sharing the key findings from the other sessions. If I make a list of key findings, it will be easier for co-researchers to agree or disagree on the results and create conversations more focused on the research questions. I should discuss this with my supervisors.”  
(Research memo, 25 June 2009)

After some conversations with my supervisors, I decided that I would continue to encourage co-researchers in Bradford and Bristol to re-write their stories because this process provides them with a critical reflection space which was important to this study. I would also design an alternative programme for the session in case co-researchers did not re-write their stories.

- *Power relationships*

At the University of Gloucestershire, I allowed the group to act as co-researchers as Haug et al. (1987) describe, and tried to share the control of the study with them. This proved to be difficult and controversial because the timeline was too short for members of staff to learn how to become real co-researchers (Lincoln & Guba, 2005). As stated above, in Bradford and Bristol, I would have to adopt a more active role in guiding the research ensuring that the study yielded relevant information.

- *Data analysis*

At the end of the pilot study, I realised that to ensure that the study was answering the research questions, the data from collective memory-work needed to be collected and analysed at the same time. This process would enable me to identify critical issues emerged in one session and further explore or address them in the following session.<sup>168</sup> I reflect on this critical process in a research memo:

“If I want to share the findings with co-researchers, it will be important to keep my journal and memos up-to-date. I will also need to collect and analyse the data at the same time.” (Research memo, 25 June 2009)

- *Ethics*

During the writing-up of the pilot study, I found it difficult to conceal the identity of co-researchers. In Bradford and Bristol, this ethical aspect of the research would be addressed by asking co-researchers how they would prefer me to address their anonymity.

## **7.4 STAGE II: THE CASE STUDIES**

In this section, I report on the processes which I undertook to collect evidence at the Universities of Bradford and Bristol. Firstly, I explain how I gained access and selected

---

<sup>168</sup> Please refer to chapter 6, section 6.4 on data analysis.

members of staff in each institution. I then explain the processes undertaken to conduct collective memory-work at the two Universities and engage co-researchers to reflect on their stories and identify opportunities for the promotion of social learning for sustainability in higher education. Finally, I outline how I identified institutional realities and contextual issues on social learning processes through interviews and documentary reviews.

Appendices 7 and 8 compile all the documentation related to the process of collecting evidence in both institutions.<sup>169</sup>

#### **7.4.1 Phase I: Gaining access to the institutions and members of staff**

The first broad phase of inquiry in Bradford and Bristol took place between 21 July 2009 and 29 April 2010 and consisted of gaining access to the institutions, forming a key informant group and selecting potential co-researchers.

- *Initial planning and gaining access*

Creswell (2007) indicates that gaining access to institutions and research participants can pose important challenges. This cycle of inquiry was critical to me as I needed the consent of institutions and guidance from key informants to conduct my research. In the first week of September 2009, I emailed potential key informants of each institution<sup>170</sup> suggested by my first supervisor, and asked if it would be possible to meet in order to discuss my research. I met BRAD–ki1 on 8 September 2009 and BRIS–ki1 on 14 October 2009. Key informants from both institutions supported my research and agreed to assist me in selecting potential co-researchers who met the criteria defined for this study. In Bradford, the key informant was interested in reading the final results of my research in order to understand how social learning for sustainability was taking place at this institution. In Bristol, BRIS–ki1 was concerned about how I would deal with the ethical

---

<sup>169</sup> Detailed information about the different phases of research including the collective memory-work programmes and documentation given to co-researchers can be found in these appendices. I have also included a sample of a research memo developed for each of the institutions.

<sup>170</sup> This convenience sample was useful to ensure that I could easily access both institutions and start the data collection process.

aspects of my research. I explained to BRIS-ki1 that the research involved political dimensions, since I sought to unpack and challenge assumptions, values and power relations. However, a wide range of ethical issues, such as anonymity, confidentiality and the right to withdraw, were addressed throughout the process which ensured that the work of the institution was respected and the identity of participants was concealed.

After my initial conversation with key informants, I emailed them with the details about the selection of co-researchers, a short summary of my research, and an invitation letter for potential co-researchers to participate in my research. At first, I was particularly enthusiastic about the initial response of both institutions, but, just before Christmas, I became concerned because I had not received any responses from the key informants regarding the selection of co-researchers. I emailed them again before the Christmas break to remind of my work. I emailed them again on 2 February 2010 to ask if they had received any responses regarding my call for participation. I asked whether it would be possible for myself to approach members of staff at their institutions directly. This is an extract of an email I sent to BRAD-ki1 and BRIS-ki1 which reflects my concerns regarding the progress of the research:

“Dear [...],

I’m now quite worried about my research as I should start collecting data maximum in March if I want to finish the thesis on time. I wanted to know whether you had any responses from any members of staff.

To be honest, I’m having the same problem [in both universities]. This is why I am so worried. [...] I was thinking whether it could be possible to email members of staff myself. Like that, I could introduce myself and invite them one day for a coffee to explain them my research (in a more informal way). Please let me know what you think about this and whether it is possible for me to have access to their contact details.”

(Email extract, 2 February 2010)

I received a response from BRAD-ki1 and BRIS-ki1 the same day. The first sent me a detailed list of members of staff who I could email and the contact of four potential co-researchers who had already agreed to participate in my research. In Bristol, BRIS-ki1 informed me that the staff who had been approached could not participate in my

research because they had other work commitments. However, he promised to email other staff who he knew would have the time and permission from their line managers to participate in the research. At this stage, I was particularly concerned about being able to conduct the research following my initial plans and timelines. The following journal reflection attests this concern:

“I think that this is a very critical moment where timing is really important. I really need to organise well my time to make sure that I will collect all the data needed from now until June 2010.” (Research journal, 2 February 2010)

During the following weeks of February, I sent the invitation to participate in my research to potential co-researchers in Bradford and arrange dates for one-on-one meetings with those members of staff who had already expressed their interest to BRAD-ki1. By the second week of February I had managed to arrange meetings with seven potential co-researchers in Bradford who I was going to meet from 16 to 18 February 2010. In the meantime, I also received a very positive response from BRIS-ki1 saying that he had managed to contact six members of staff who were interested in taking part in my research. I emailed potential co-researchers in Bristol and managed to arrange one-on-one meetings from 1 to 3 March 2010. Although I had succeeded in raising interest with some members of staff in each institution, at this stage, my worries were about knowing if these potential co-researchers were the right selection for my study.

- *One-on-one meetings with potential co-researchers*

The process of forming a collective memory-work group to inquire into social learning began on 16 February 2010. For a period of three days I held one-on-one meetings with members of staff in Bradford. I shared my research focus and goals and explained what participating in this research entailed. I asked staff questions about their role at the institution and engagement in sustainability. I listened to their learning stories regarding sustainability and discussed issues in which they seemed to be interested in. Because the first meeting was with an administrator who was able to access staff electronic diaries, I could identify dates for the sessions which were suitable for many potential co-researchers. BRAD-ki1 kindly offered me a meeting room where I could organise the



collective memory-work sessions as well as a catering service to offer coffee and snacks to co-researchers.

All the potential co-researchers in Bradford agreed to participate in the research and were able to attend the different sessions. One member of staff (BRAD-c6) had other work commitments the first two sessions of collective memory-work. For this reason, she decided not to participate. BRAD-c1, BRAD-c2, BRAD-c6 and BRAD-c7 acknowledged that their understanding and commitment to sustainability had been influenced by the University of Bradford. Before they started working at this institution, they did not have an understanding of what sustainability really meant. BRAD-c3, BRAD-c4 and BRAD-c5 recognised that they were already committed to this agenda before working at this institution. Although they did not follow one of the criteria to select co-researchers, I invited them to participate in the research, as in the one-on-one meetings they identified a series of social learning experiences which had been influenced by the University of Bradford and which could be interesting to showcase in my research. It was forced upon me using different criteria because I found it very difficult to meet co-researchers who felt that they had changed their commitment towards sustainability while working at their institutions.

In Bristol, I held one-on-one meetings with potential co-researchers from 1-3 March 2010. I followed the same structure of conversation as at the University of Bradford. All the members of staff I met were interested in participating in my research and found the methodology appealing. They all agreed to participate. Three members of staff (BRIS-c1, BRIS-c2 and BRIS-c3) recognised that their commitment to sustainability had started to change while working at the University of Bristol. The rest had been engaged in this agenda for a long time, but not in an active way, just as a 'common sense' way of doing things. They acknowledged that it was at the University where they had the opportunity to put sustainability into practice.

Although I had enough members to form a collective memory-work group, I was not convinced with how appropriate the selection of members of staff was in Bristol. For example, I did not have the opportunity to meet many academics. On 7 March 2010, I met my first supervisor and expressed my concerns. She strongly recommended that I

met some more academics and delay the data collection in Bristol until I was sure that I had the right selection of co-researchers. She was also concerned about the fact that some potential co-researchers were actually delivering sustainability as part of their role at the institution and, thus, it would be difficult to state whether their stories were purely social learning. It was important that I made sure that their stories were not focused on the work they were undertaking at the University. The following extract from my research journal reflects on the conversation which I had with my first supervisor:

“[...] we then talked about the potential participants that I met in Bristol last week. My first supervisor was quite concerned about them. She said that some of them are actually delivering sustainability and, thus, it will be difficult to state whether their stories are purely social learning. [...] We decided that I would postpone the research in Bristol [...]. I think it is wise to concentrate the efforts in Bradford now and see what happens.” (Research Journal, 7 March 2010)

Between March and May 2010 while I was collecting the data in Bradford, I emailed more members of staff at the University of Bristol and tried to arrange one-on-one meetings. I found it difficult to get a response from staff, but managed to meet two academics, BRIS-c7 and BRIS-c8 on 25 and 29 April 2010. The first was interested in becoming involved in my research. The latter preferred not to commit to participating. Although I was still unsure about the selection of co-researchers, I realised how difficult it would be to meet other staff. I decided that I would move forward the research and in the first session explore whether I needed to select other co-researchers. The challenge now was to find three dates which were suitable for all co-researchers in Bristol. Finally, we succeeded in identifying the dates for the three collective memory-work sessions. BRIS-ki1 offered me a meeting room in his department where I could hold the three sessions. I decided to bring Spanish food, coffee and tea to the meetings to offer to co-researchers.

#### **7.4.2 Phase II: Conducting collective memory-work**

Following the critical social methodology adopted in my study, phase of stage two of this research consisted of collecting evidence on contextual issues of social learning processes at the Universities of Bradford and Bristol. During a research process

consisting of three collective memory-work sessions and a critical reflective practice, the research group engaged in identifying how social learning for sustainability took place in their institutions and outlined structural and cultural enabling processes and constraints in this area. To achieve this, the main challenges were creating an environment where co-researchers felt comfortable enough to raise political issues and unpack their own social learning experiences, as well as engaging all co-researchers in participating equally in dialogue as outlined by Habermasian theory of communicative action. The following extract from the research journal reflects my concern in providing a participatory reflection process during the research:

“This morning [...] I was especially nervous because in this first session I had to make clear to co-researchers the research aims and objectives of the study and the ways I wanted to involve them. I guess that I was also nervous because I consider this first session very important to engage the members of staff in the research process. The research is planned to be a reflective platform for them and for this to happen they need to participate actively in the process.” (Research journal, 9 March 2010)

Table 7.2 summarises and gives relevant information on each of the collective memory-work sessions held at both institutions.

**Table 7.2 Collective memory-work at the Universities of Bradford and Bristol**

Collective memory-work sessions	University of Bradford	University of Bristol
Session 1: Introduction	<ul style="list-style-type: none"> <li>- Date: 9 March 2010, 13-14h</li> <li>- The goals, research questions and ethical aspects of my research were explained.</li> <li>- Co-researchers engaged in a discussion of social learning and institutional culture. I designed a poster to explain my research.</li> <li>- The group engaged very actively in the discussions and raised very critical questions and debate regarding how we would work together and follow ethical principles.</li> <li>- Co-researchers tended to discuss issues related to the Ecovercity project rather than the whole institutional culture for sustainability at this institution.</li> <li>- I asked co-researchers to write a story about one or more social learning experiences within their institutions (see appendix 7 for more details).</li> </ul>	<ul style="list-style-type: none"> <li>- Date: 11 May 2010, 11-12h</li> <li>- The session was structured as the one in Bradford.</li> <li>- I was particularly interested to analyse whether the selection of co-researchers in Bristol was appropriate.</li> <li>- I was surprised by the high levels of participation, depth in discussing issues related to institutional culture and cohesion built in the group.</li> <li>- Co-researchers were more interested in discussing more deeply what I meant by social learning than negotiating ethics.</li> <li>- Just as in Bradford, I asked co-researchers to write a social learning story following the guidelines included in appendix 8.</li> </ul>
Writing stories I	<ul style="list-style-type: none"> <li>- I met co-researchers individually between session 1 and 2 in order to help them with framing their stories.</li> <li>- I met all the co-researchers in Bradford from 23 to 24 March 2010.</li> <li>- Most co-researchers found it difficult to frame the story and reflect on how the institution influenced (or not) social learning processes.</li> <li>- I received all the stories from co-researchers, apart from BRAD-c2 who withdrew from the research due to other work</li> </ul>	<ul style="list-style-type: none"> <li>- I followed the same process as I did at the University of Bradford.</li> <li>- I met all co-researchers in Bristol from 1 to 10 June 2010.</li> <li>- Almost all co-researchers had quite a detailed idea of what experience they wanted to share with the group in the following session.</li> <li>- I received all the stories prior to the following research session which helped me to prepare critical questions about the issues raised in each story.</li> <li>- My concern was that most stories were focused on very technical aspects of sustainability. This was mainly influenced by the background of co-</li> </ul>

	<p>commitments, the week before session 2.</p> <ul style="list-style-type: none"> <li>- BRAD-c1 and BRAD-c4 asked me to read their stories before the session and give them some feedback to improve them.</li> </ul>	<p>researchers. It is also important to note that the technical aspects of sustainability are also a reflection on how sustainability is approached at the University of Bristol.</p>
<p>Session 2: Collective analysis of learning stories I</p>	<ul style="list-style-type: none"> <li>- Date: 16 April 2010, 10-12h</li> <li>- I proposed that co-researchers should read aloud their stories and then discuss each story for 10-15 minutes.</li> <li>- This session was particularly interesting as co-researchers participated very actively in the discussions.</li> <li>- It proved to be very difficult to focus the research on social learning processes. Co-researchers tended to talk about how sustainability was addressed at the institution and to focus their conversations on the University's sustainability programme.</li> <li>- I asked co-researchers to re-write their stories. I encouraged co-researchers to add more critical reflections on how the institution influenced social learning processes in the area of sustainability.</li> </ul>	<ul style="list-style-type: none"> <li>- Date: 14 June 2010, 12.30-14.30h</li> <li>- In Bristol, I followed the same methodology used at the University of Bradford.</li> <li>- I had to constantly raise questions to keep the group engaged in a discussion about how social learning was taking place in their institution.</li> <li>- I was surprised at how the understanding of co-researchers on social learning or sustainability had been improved from the first time I met them individually in the one-on-one meetings.</li> <li>- I felt that my skills on how to facilitate a collaborative research process had improved.</li> <li>- At the end of the session, I encouraged co-researchers to re-write their stories.</li> </ul>
<p>Writing stories II</p>	<ul style="list-style-type: none"> <li>- I decided not to meet co-researchers individually giving them a more creative space to decide how to change their stories.</li> </ul>	<ul style="list-style-type: none"> <li>- BRIS-c4 emailed me asking if she could completely change the focus of her story. I was excited about how she would change it and encouraged her to do so.</li> </ul>
<p>Session 3: Collective analysis of learning stories II and discussion of results</p>	<ul style="list-style-type: none"> <li>- Date: 11 May 2010, 13-15h</li> <li>- This session consisted of reading the re-written stories and stating why and how each co-researcher had decided to change them.</li> <li>- BRAD-c3 did not attend the meeting, but sent me his story. BRAD-c5 read it on his behalf as he did not have the time to re-write his.</li> <li>- BRAD-c7 did not attend this session because he had other</li> </ul>	<ul style="list-style-type: none"> <li>- Date: 29 June 2010, 12-14h</li> <li>- All co-researchers except BRIS-c1 had re-written their stories using very different strategies.</li> <li>- When I shared the issues raised in the previous sessions, a very rich discussion focusing exclusively on social learning issues developed.</li> <li>- I had the impression that the group felt that they were part of a very interesting process which had created the space for them to meet and discuss issues in which they were interested.</li> </ul>

	<p>work commitments.</p> <ul style="list-style-type: none"><li>- The session was shorter than I had expected as the group was only composed of three co-researchers and myself.</li><li>- I shared the main issues which had been raised in the previous sessions and clarified some important questions with co-researchers.</li></ul>	<ul style="list-style-type: none"><li>- Co-researchers started to think about collective ideas related to social learning which they could put into practice at their institution.</li></ul>
--	---	--

### **7.4.3 Phase III: Identifying institutional realities and opportunities of social learning for sustainability**

This phase required contrasting the information which emerged from collective memory-work at the Universities of Bradford and Bristol with data captured with other research sources. As explained in sections 6.3.3 and 6.3.4, I conducted semi-structured interviews and reviewed institutional documentation to collect evidence on how social learning for sustainability took place and was supported at these institutions; and, capture more details about the social learning opportunities mentioned by co-researchers during the collective memory-work sessions. This cycle was not only important to capture data which I could not collect during the collective memory-work sessions, but also to analyse similarities and contradictions of information obtained through different sources.

On 11 May 2010, after the last collective memory-work session in Bradford, I met BRAD-ki1 to report to him on the research process undertaken with members of staff in Bradford and to explain to him the next steps of my research. I asked whether he could assist me in identifying key actors at the institutions who could inform me about how social learning was encouraged and influenced by the institution and who could give me details regarding the University's commitment to sustainability. I also asked the key informant to suggest any institutional documentation to review. BRAD-ki1 agreed to help and asked me to send him an email outlining the criteria for selecting potential interviewees.

On 9 July 2010, I met BRIS-ki1 and asked him to suggest potential interviewees and documentation to review. BRIS-ki1 warned me that it was difficult for him to suggest key members of staff in this area as his work did not relate to social learning for sustainability. He suggested I contact some of the co-researchers with whom I had worked as they would be able to help. After the meeting with BRIS-ki1, and following the recommendations of my supervisors, I did a search on the internet and found key people who could help in contrasting the data I had collected through collective memory-work in Bristol. I also emailed BRIS-c3, BRIS-c4 and BRIS-c7 asking them for the contact details of some staff that they had already mentioned during the collective

memory-work sessions. I received a response from co-researchers very quickly providing me with the information that I required.

On 20 July 2010, I emailed the potential interviewees suggested by key informants and co-researchers and proposed meeting them during the month of August and September. From 9 to 10 August 2010, I visited the University of Bradford and interviewed five members of staff. From 8 to 22 September, I visited the University of Bristol and interviewed eight members of staff. Following the ethical considerations of this research, I explained my study to interviewees and outlined the main ethical aspects of the research. An information and consent form outlining the ethical issues of my research was given to them.<sup>171</sup>

## **7.5 LESSONS LEARNED AND REFLECTIONS FROM THE RESEARCH CYCLES AND PROCESSES**

In this section, I would like to reflect upon my learning as a researcher conducting social critical research into social learning for sustainability in higher education. The aim of this section is to present the values and limitations of the methodology employed, as well as my role as a critical researcher in the area of learning for sustainability. To reflect deeply on how I conducted this critical inquiry, I would like to return to the key philosophical assumptions of critical social research outlined in chapter 5, section 5.6. Critical social research in this study informed a piece of research which:

- *is collaborative and participative*: the pilot study conducted at the University of Gloucestershire assisted me in reframing the methodological procedures underpinning collective memory-work. This method proved to be a very powerful technique for investigating learning for sustainability processes as it challenges co-researchers understanding of sustainability and enhances discussion and learning throughout the research process. Organising collaborative research in three

---

<sup>171</sup> More information about interviews and key documents reviewed can be found in appendices 7 and 8. An example of questions asked during the interviews can be found in these appendices. Because the interview was semi-structured and members of staff could report to me on different issues, I did not use the same template for all the interviews. However, I asked most of the questions provided in the example from the appendices to all interviewees.



different organisations, however, was challenging. Accessing institutions, forming the key informant group, selecting co-researchers and organising three research sessions in each organisation were time consuming processes. At some stages, I felt overwhelmed by the challenge of organising meetings at the different institutions and making sure that all co-researchers could attend these sessions. I have to recognise that the process was finally successful. The help provided by key informants and the enthusiasm of co-researchers were key to making the research happen in the three institutions selected.

As the main researcher, I adopted an active role as a facilitator of this method, providing an open and reflective platform for co-researchers to freely express their opinions about social learning processes for sustainability within their institutions, but at the same time also trying to challenge and upscale their thinking in this area. Sharing power relationships with co-researchers was a challenging process as (i) the timelines were too short for co-researchers to gain ownership of the research process; and (ii) I had little experience as a critical researcher. The pilot study enabled me to gain some research skills before commencing the data collection at the Universities of Bradford and Bristol. This learning was particularly useful in knowing when to allow discussions to develop freely, or when to direct conversations towards responding to the research questions defined by my doctoral study. It was also useful to deal, to some extent, with false consciousness, as I was constantly aware of the importance of unpacking co-researchers' previous assumptions and beliefs. However, I have to acknowledge that this was the most difficult task for me as, in many cases, I found it difficult to ask the right questions which could help co-researchers reflect on their own assumptions. As stated above, there was not enough time to spend on dealing with this critical issue in depth.

- *is self-conscious, reflective and positioned*: the research sought to capture the diversity of perspectives from co-researchers, key informants and interviewees on social learning for sustainability. Participating in the research involved following strict ethical procedures to ensure the anonymity and confidentiality of participants. Ethical issues were discussed collaboratively with the different research participants before starting the data collection process. Acknowledging that I also brought my

own views on this topic, I tried to enhance the reflective exercise offered by the research methodology to collectively discuss how higher education institutions promote, limit and influence social learning processes in the area of sustainability. As mentioned above, the critical social paradigm offered the means to uncover the different assumptions, values and beliefs from the different participants of this research, but also provided with me the opportunity to reflect on my own understandings regarding the research topic. For example, initially, I believed that I would capture more social learning opportunities at one of the institutions as it seemed to me that its engagement in sustainability was stronger than the other institution. Through the discussions held with participants, I realised that the approaches used to embed sustainability and learning within the latter institution also offered many opportunities for the emergence of social learning processes in this area. Keeping my research journal and memos up-to-date was crucial in capturing important reflections on the research methodology and pre-established assumptions. Throughout this chapter and chapter 8, I have tried to use this diversity of data sources to enhance the validity of this study and enable different perspectives from the research participants to be heard.

- *is transformative*: the study, through collective memory-work and semi-structured interviews, sought to raise awareness about social learning processes for sustainability; provide reflective spaces to outline barriers and enabling processes for the emergence of these processes; and challenge the status quo of higher education institutions in the area of sustainability. The discussions established at the different research sessions and questions posed to co-researchers, key informants and interviewees sought to explore the possibilities and opportunities for higher education institutions to contribute to this important agenda. The key themes which emerged throughout the data collection were used to construct indicators which can assist and guide higher education institutions in supporting social learning processes in the area of sustainability.
- *seeks social and cultural emancipation*: the participatory process underpinning the research enabled co-researchers, key informants and interviewees to develop a deeper and broader understanding of social learning for sustainability, and reflect

on how their institutions can contribute to enhancing opportunities in this area. For example, in the last collective memory-work session at one of the institutions, co-researchers started to explore possibilities on how they could initiate social learning activities in the area of sustainability. This process was influenced by the methodology used which encouraged democratic dialogues, participation and freedom of expression. Collective memory-work proved to offer to co-researchers a space for improving sustainability developments within their institutions.

- *assumes that power can be seen not only as repressive, but also as positive:* the research proves that power is not always limited by others. Individual and institutional power can, in many cases, offer opportunities to improve social learning activities in the area of sustainability in higher education (Gaventa and Cornwall, 2001). Power issues have been further explored in the next chapter on research findings.

## **7.6 SUMMARY**

This chapter has primarily focused on explaining in detail the main research decisions, cycles and processes which underpin the data generation of my doctoral study. It was my intention to reflect on the values and limitations of the research methodology employed as well as expose the challenges and struggles presented throughout the research process. Following key principles of critical social methodology, I have tried to make the researcher's reflexivity explicit throughout this chapter.

The following key points summarise the research design, methods and processes underpinning my research:

- 1) Three higher education institutions in the UK were selected as places to conduct the research on social learning processes in the area of sustainability. The University of Gloucestershire was chosen as the pilot study and the Universities of Bradford and Bristol, as in-depth case studies. These institutions have explicitly committed to offer sustainability learning opportunities to staff and students, and are recognised in the higher education sector for their involvement in the sustainability agenda.

- 2) In each institution, I selected various members of staff to act as co-researchers. The criteria underpinning the selection have been outlined in this chapter.
- 3) The research stages which assisted me in collecting data on social learning for sustainability in these institutions have been explained in detail.
- 4) I have presented the lessons learned from conducting collective memory-work with a group of members of staff at the University of Gloucestershire. The pilot study was crucial to inform the whole research design of this doctoral study.
- 5) The different research phases in collecting data on social learning for sustainability at the Universities of Bradford and Bristol have been described. The chapter has outlined the different limitations and challenges in accessing both institutions and forming a key informant group to advise me on the process of conducting the research. The process of forming a collective memory-work group in each institution and the different research sessions held have also been explained in detail.
- 6) I have also explained the process of conducting interviews and reviewing institutional documentation to complement and triangulate the data captured through collective memory-work.
- 7) The data generation at the Universities of Bradford and Bristol is important in order to identify key themes as the basis to construct indicators of social learning for sustainability which can assist institutions in supporting this type of learning.
- 8) Finally, I have highlighted key lessons learned and reflections from conducting and facilitating the research. The lessons learned reflect on the values and limitations of the methodology employed and my role as a researcher. These key reflections are based on the assumptions of critical social methodology outlined in chapter 5, section 5.6.

## **PART III RESEARCH FINDINGS, FINAL REFLECTIONS AND CONCLUSIONS**

This part presents the findings arising from the two in-depth case studies selected by my research. I firstly engage in defining and understanding the institutional contexts of the chosen case studies. I then explain how social learning for sustainability occurs in higher education and explore key components and contextual factors influencing this learning process. Evidence is also provided on how social learning for sustainability can shift thinking and actions of staff as well as on the dialectical relationships which exist between social learning and institutional culture for sustainability. Through the development of a grounded understanding of social learning for sustainability, I propose indicators which can help universities to improve their contribution to this area or which can inform current sustainability benchmarking and ranking systems in higher education. Finally, this part discusses the contributions and limitations of the research and offers directions for future studies.

Part III contains the following chapters:

**CHAPTER 8 RESEARCH FINDINGS**

**CHAPTER 9 RESEARCH OUTCOMES, FINAL REFLECTIONS AND CONCLUSIONS**

## CHAPTER 8 RESEARCH FINDINGS

### 8.1 INTRODUCTION

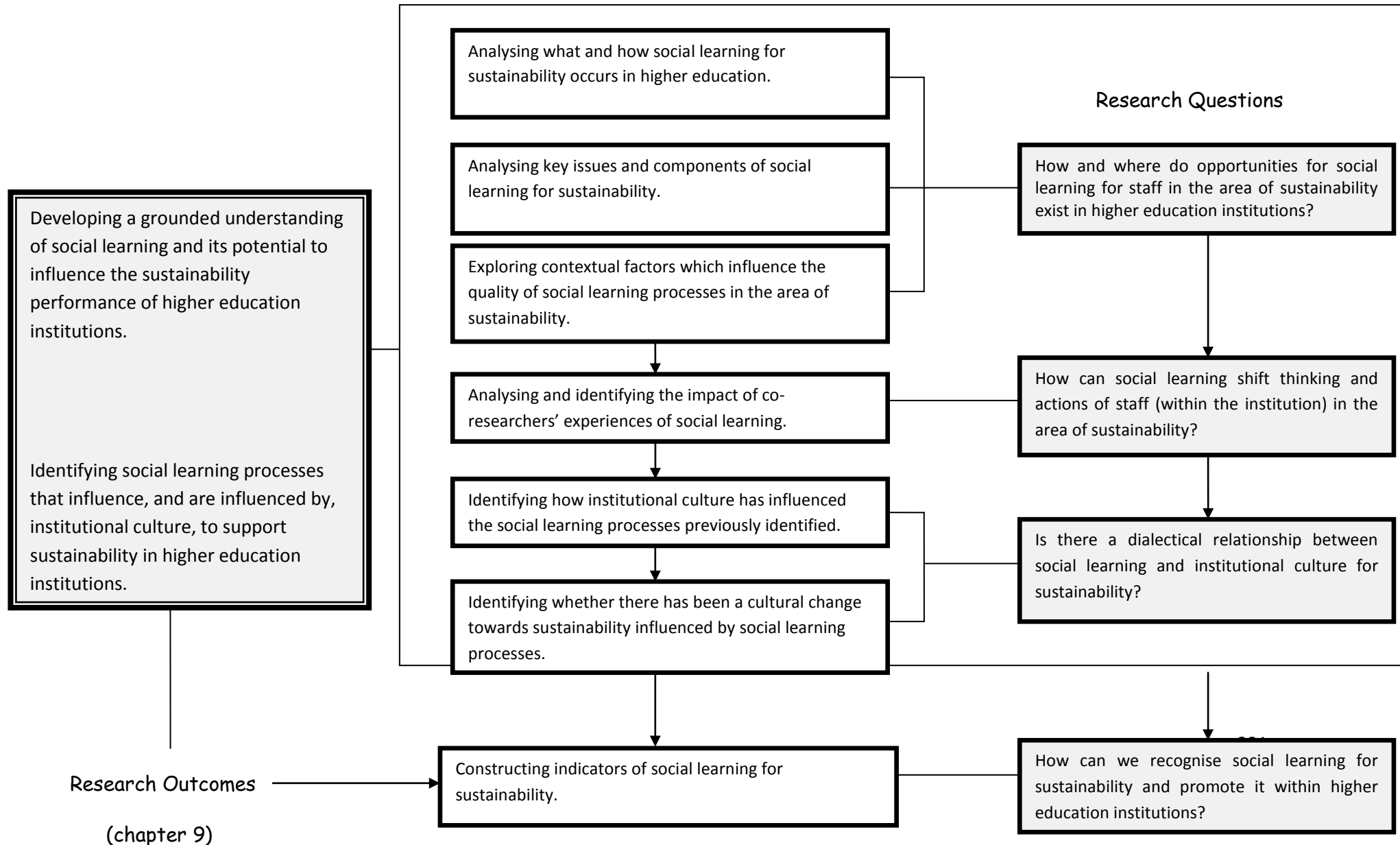
The need for innovation in sustainability in higher education is well documented (Lotz-Sisitka, 2011a; Lozano et al., 2010; Tilbury, 2011c; UNESCO, 2005; UUK, 2009). My doctoral thesis seeks to contribute to this agenda through (i) developing a grounded understanding of social learning and its potential to influence the sustainability performance of higher education institutions; and, (ii) identifying social learning processes that influence, and are influenced by institutional culture, to support sustainability in higher education institutions. Through understanding these dynamics, in chapter 9, I propose indicators to assist institutions in contributing to this significant agenda.

This chapter seeks to answer the research questions and goals of my thesis as summarised in figure 8.1. An initial stage of the study required collecting data to define and understand the institutional contexts of the universities chosen as case studies.<sup>172</sup> This was an important undertaking which helped me reflect deeply on how the historical contexts, limitations and interests of each organisation could influence the findings of the research. After summarising contextual issues, the chapter summarises the diversity and types of social learning processes identified at the Universities of Bradford and Bristol. Then, I explore key components, and issues of social learning as well as contextual factors which prove to influence the quality of this process. In the final sections, I present evidence on how social learning can shift thinking and actions of staff and identify strands of a dialectical relationship which exists between social learning and institutional culture for sustainability in the institutions studied.

---

<sup>172</sup> Please refer to 8.2 of this chapter and appendices 6, 7 and 8 to understand the context where the research took place.

Figure 8.1 Presentation of data and findings



## 8.2 CONTEXT FOR THE CASE STUDIES

Critical social theory requires that researchers and research studies identify their interests and reflect on the historical developments and limitations of interests in a specific social or historical situation (Giroux, 2003). Thus, understanding context is an important component of this type of research. For this reason, I have reviewed and analysed the situational contexts of the institutions in which I have sought to capture information and experiences of social learning for sustainability.

In this section, I have developed a table which briefly summarises the context of the three institutions<sup>173</sup> and their engagement with sustainability issues (see table 8.1). I have used some of the indicators developed by the People&Planet Green League 2011 to illustrate the sustainability performance of these organisations. The intention of this section is to provide some detail about the context underpinning this research work.

Further detail or information regarding each institution can be found in appendices 6, 7 and 8. The information presented in this section, and in the appendices, was gathered through reviewing institutional documentation and websites, current benchmarking initiatives in which these institutions participate, as well as conducting interviews with members of staff.

---

<sup>173</sup> Although I present a short summary of key sustainability developments at the University of Gloucestershire, I have not used the information collected at this University to draw research findings and conclusions.



**Table 8.1 Key information summarising the sustainability performance of the institutions studied**

	Key information		University of Gloucestershire (pilot)	University of Bradford	University of Bristol
<b>General information</b>	University status		2001	1966	1909
	Location		Cheltenham and Gloucester	Bradford (city campus)	Bristol (city campus) and Langford
	Approx. no. of students		9,000	12,500	17,900
	Approx. no. of staff		900	2,500	5,800
	Faculties and Schools		Three Faculties: Media, Arts and Technology; Business; Education and Professional Studies; and, Applied Sciences.	Seven distinctive Schools: Engineering, Design and Technology; Computing, Informatics and Media; Health Studies; Life Science; Management; Lifelong Education and Development; and, Social and International Studies.	Six Faculties: Arts; Engineering; Medical and Veterinary Sciences; Medicine and Dentistry; Science; and, Social Sciences and Law. In total, there are 27 different Schools.
<b>Sustainability<sup>174</sup></b>	Environmental policy	There is a publicly available environmental policy.	✓	✓	✓
		It is reported on annually at a senior level.	✓	✓	✓
		It sets SMART targets to reduce environmental impacts.	✓	✓	✗

<sup>174</sup> This section has been developed using the People&Planet Green League 2011 indicators and results. See: <http://peopleandplanet.org/green-league-2011/table>

	Environmental staff Full-Time Equivalency (FTE)	2.9 staff dedicated to environmental management per 5,000 students (capped at 15,000 students)	1.6 staff dedicated to environmental management per 5,000 students (capped at 15,000 students)	2.2 staff dedicated to environmental management per 5,000 students (capped at 15,000 students)
Environmental Auditing and Management Systems	The University has audited its environmental impacts within the last five years.	✓	✓	✓
	The University operates an externally audited Environmental Management System.	✓	✓	✓
Ethical investment policy	The University has a publicly available ethical investment policy.	✓	✓	✗
	The policy is reported on annually and/or there are ongoing opportunities for staff, students and other stakeholders to engage with the policy.	✓	✓	✗
	The University, on ethical grounds: a) divested, b) invested, c) engaged with companies as a shareholder, or d) changed banking provider in the last year.	✓	✗	✗
Carbon management	The University has a publicly available Carbon Management Plan which meets the Carbon Trust and Capital Investment Framework requirements.	✓	✓	✓
	The University has set average annual % carbon reduction target.	✓	✓	✗
	The scope of University carbon management plan baseline & targets includes emissions from procurement, staff and students business trips and travels.	✗	✗	✗
Ethical	The University is an accredited Fairtrade	✓	✓	✓

	procurement and Fairtrade	University with the Fairtrade Foundation.			
		The University has a joint staff/student steering group with the remit of going beyond Fairtrade and increasing the sustainability of all procurement categories.	✗	✓	✗
		The University is affiliated to the Worker Rights Consortium, in order to monitor the suppliers and parts of its garment supply chains that are not covered by Fairtrade certification.	✗	✗	✗
	Sustainable food	The University has a publicly available Sustainable Food policy which sets specific time bound targets for improvements.	✓	✓	✓
		The sustainable food policy is reported on annually at a senior level.	✗	✓	✗
		The University is implementing sustainable food practices.	<ul style="list-style-type: none"> <li>- purchasing/using free-range eggs;</li> <li>- purchasing/using sustainable fish;</li> <li>- menus change with the availability of seasonal produce;</li> <li>- does not sell bottled water through its hospitality services.</li> </ul>	<ul style="list-style-type: none"> <li>- purchasing/using free-range eggs;</li> <li>- purchasing/using sustainable fish;</li> <li>- menus change with the availability of seasonal produce.</li> </ul>	<ul style="list-style-type: none"> <li>- purchasing/using free-range eggs;</li> <li>- menus change with the availability of seasonal produce.</li> </ul>

Staff and student engagement	Students' Union or Students' Association associated with the institution has achieved a Bronze, Silver or Gold Award in this year's Green Impact Union Awards (or similar).	✓	✓	✓
	The University actively supports an annual Go Green Week or Environment Week.	✓	✗	✓
	Staff engagement scheme to involve staff in improving the environmental performance of the university- eg., Green Impact Universities or departmental eco-champions.	✓	✗	✓
	Initiatives to increase energy saving behaviour of all students in halls of residence.	✓	✗	✓
	Initiatives to increase recycling by all students in halls of residence.	✓	✓	✓
	Student representation on all university committees concerned with estates, planning, finance and resource allocation.	✗	✓	✓
	Environmental awareness-raising campaigns that reach all students and staff.	✓	✓	✗
	Coursework linked to sustainability projects within the university/estates department.	✓	✓	✓
	Availability of University funds for student or staff-led practical sustainability projects (eg., campus allotments, recycling schemes etc).	✓	✓	✓
	Oversight and involvement of students and staff in the development and ongoing monitoring of Carbon Management Plan.	✓	✓	✗

		Provision of space for student / staff food-growing projects.	✓	✓	✓
		All staff inductions cover sustainability policy and issues.	✓	✓	✓
		Trade Union climate action groups (eg., GreenReps) or time off to participate in Union- linked sustainability initiatives.	✗	✗	✗
	Curriculum	There is a commitment to integrate sustainability into the curriculum in the Corporate or Strategic Plan.	✓	✓	✗
		There is a commitment to integrate sustainability into the curriculum in the Teaching and Learning Strategy.	✓	✓	✗
		There is a commitment to integrate sustainability into the curriculum in the Environmental Policy.	✓	✗	✓
		Support or training is made available to all staff to help them integrate sustainability into the curriculum.	✓	✓	✗
		There is a review and reporting process in place to monitor the integration of sustainability into the curriculum.	✓	✓	✗

The Universities of Bradford and Bristol where my research took place share certain contextual similarities, and also several differences. These are captured in table 8.1 and summarised below:<sup>175</sup>

- The University of Bradford is a newer and smaller institution than the University of Bristol. Whereas the first was awarded university status on 1966, the second received the Royal Charter in 1909. The University of Bradford consists of a community of nearly 12,500 students and 2,500 members of staff, and the University of Bristol has approximately 17,900 students and 5,800 members of staff. This information is important as it may influence the possibilities for innovation in the area of social learning for sustainability.
- The institutional literature reviewed confirms that whereas the University of Bradford is considered to be a teaching-led institution, the University of Bristol defines itself as a research intensive organisation. This contextual factor may influence the type of students and staff that both universities attract.
- Both universities are based in England and located in different counties. The University of Bradford is situated in West Yorkshire, North of England. The University of Bristol is situated in Aston, South of England. This factor may also influence the types of students and staff which these universities attract.
- Both institutions have committed to improve their environmental and sustainability performance. Table 8.1 illustrates the engagement of both universities in this agenda through, for example, auditing their environmental impacts, meeting the Carbon Trust and Capital Investment Framework requirements or implementing sustainable food practices.
- Both universities have committed to provide sustainability learning opportunities to their staff and students through informal events and initiatives. Some of these projects intend to link the messages taught in the curriculum with the institutional

---

<sup>175</sup> Please note that I make emphasis on the contextual realities of the Universities and Bradford and Bristol as these are the institutions where I have sought to capture information on social learning for sustainability.

engagement in ‘greening’ the campus. Other initiatives try to involve the institutional community in sustainability decision-making processes. These activities, mostly occurring outside the formal curriculum, demonstrate the potential for institutions to enhance the social learning experience on campus.

- The two institutions are working towards integrating educational and learning aspects of sustainability in the curriculum. As illustrated in table 8.1, there is evidence that the University of Bradford is leading this agenda. The University of Bristol is more focused on enhancing the sustainability performance of the institution and embedding sustainability within research activities.

### **8.3 HOW AND WHERE DO OPPORTUNITIES FOR SOCIAL LEARNING FOR SUSTAINABILITY EXIST IN HIGHER EDUCATION?**

In order to develop a grounded understanding of social learning for sustainability and identify its potential to influence the sustainability performance of a university, I have sought to (i) understand what and how social learning occurs in higher education; (ii) analyse key issues and components of social learning for sustainability; and, (iii) explore contextual factors which influence the quality of social learning for sustainability processes (see figure 8.1). This section tries to provide evidence in these areas.

#### **8.3.1 Understanding what and how social learning for sustainability occurs in higher education**

- *How does social learning manifest itself in the higher education institutions studied?*

The research captures considerable evidence which confirms the importance of the informal aspects of social learning for sustainability. Research participants<sup>176</sup> describe social learning as an informal learning process which constantly occurs in the institutional social and cultural environments. A word count on NVivo illustrates that the

---

<sup>176</sup> Please note that by research participants I include co-researchers of collective memory-work, interviewees and key informants.

term ‘informal’ is cited regularly.<sup>177</sup> This finding is aligned to the literature which explains that sustainability addressed as a social learning process is rooted in the life-worlds of people and the encounters they have with each other (Wals & van der Leij, 2007). In table 8.2, I showcase several quotes from research participants explaining how this process takes place as an informal activity within their institutions.

**Table 8.2 Social learning viewed as an informal learning process**

Informal components	As explained by research participants...
Social circles	“The social learning that we do is, is exactly social in the social circles that we are in.” (BRIS-c2, 29 June 2010)
Informal interactions	<p>“...Here in the [name of his department], a lot of our social learning happens in the coffee bar. You know, it’s all informal. We get together and exchange ideas there or talk about things.” (BRAD-int2, 10 August 2010)</p> <p>“If you look at people’s social learning, it starts with conversations but it can also build on... you know, it doesn’t have to be a conversation only, it can be other interactions that cause people to think: what they are in the world, what they’re doing.” (BRAD-int4, 10 August 2010).</p> <p>“I think that the tricky thing for social learning is, again, that it is difficult to measure because a lot of positive outcomes may have actually come about a conversation you’ve had in the corridor or in the kitchen or walking between meetings, but that wouldn’t be recorded anywhere or wouldn’t be seen as being a result of that conversation.” (BRIS-c3, 29 June 2010)</p>
Social experience	“The level of interaction will vary quite widely [...] in terms of what people experience.” (BRIS-c3, 12 May 2010)
Informal learning space on campus	“So the ‘growing your own’ philosophy and learning began through pockets of interested staff and students getting together in informal, relaxed

<sup>177</sup> The term ‘informal’ was cited 37 times.



	environments on campus, is a movement that grew in momentum/enthusiasm and resulted in recognition and acceptance of a new informal learning space on campus, a total departure from the University's previous direction of the campus as a classroom learning space" (BRAD-c1, story 1)
--	--

The information collated reveals that this informal, social learning process tends to occur both as a facilitated or planned activity and as an unfacilitated or spontaneous event.<sup>178</sup> For example, BRAD-int1 acknowledged that:

"How we define social learning is interesting as well because some people's social learning comes from a planned and structured event and for some people it comes out from the realisation of something." (BRAD-int1, 9 August 2010)

In my research journal, I also captured the existence of both types of social learning processes after one-on-one meetings with potential co-researchers in one of the institutions. At that time, I was referring to formal or informal social learning processes. I wrote:

"At the moment, I feel that potential co-researchers have explained interesting examples of social learning. I think that we can have very interesting discussions about the culture of the institution and how the University is providing opportunities for social engagement. Their examples were both focused on formal and informal social learning practices. I think it is going to be important to reflect on what is the difference between both types of activities. Are both activities social learning processes?" (Research journal, 23 March 2010)

---

<sup>178</sup> Please note that when I refer to facilitated or unfacilitated social learning, I do not mean formal and informal social learning. In chapter 3, section 3.3.1, I have further described social learning as a facilitated and unfacilitated process. As Sterling (2007, p. 73) explains, the first would be associated with 'intentioned learning' or 'learning by design.' Participants or learners have a prior disposition or intention to learn about sustainability issues. Learning processes are designed and learning atmospheres are explicitly created for participants to discuss sustainability issues. In many cases, this process has been associated with multi-stakeholder activities which are focused on decision-making and problem-solving (Dyball et al., 2007; Keen et al., 2005; Krasny & Lee, 2002; Reed et al., 2010; Wals et al., 2009; Wildemeersch, 2007). In the case of universities, they are usually related to the participation in extra-curricular activities offered by institutions (Lipscombe, 2009). The second, as Sterling explains, would refer to 'reactive learning' or 'learning by default.' This means that learning is not previously designed or planned and participants learn about sustainability through unexpected events. As I explain in chapter 3, this type of process is about spontaneous dialogue processes which occur in a daily basis in a higher education institution.

My research captured various activities under unfacilitated/unplanned or facilitated/planned social learning processes. These are the following:

(i) Social learning as an unfacilitated or unplanned process

Interpretations from discussions, experiences and stories of research participants reflect that most of the social learning of staff in the area of sustainability tends to occur as a spontaneous process of dialogue – i.e., in a ‘reactive learning’ form. The data collected suggests that sustainability dialogues seem to occur most of the times as a face-to-face activity or through online social networks. The first is more frequent and valued by co-researchers and interviewees. For example, BRAD-int2 explained that:

“There’s the potential for that (online social networking), but, personally, I would like to see more face-to-face. I mean, I’m sceptical about the online... I think it’s, um, there’s a lot of potential there [...] but it’s not really lived up to its promises yet.” (BRAD-int2, 10 August 2010)

An exploration of opportunities for sustainability social interaction offered by online social networks in both institutions reveals that their use is minimal or underplayed. There is a growing awareness of or interest in new technologies as tools which facilitate dialogue, but, in many cases, the interaction taking place is negligible. For example, BRIS-c4, who called herself Jenny in her story, explained that the institution offered the possibility for departments to have their own Wikispaces.<sup>179</sup> She explained that:

“This was another space (Wikispace) that had been created to inform people about how they could be green and had also taken advantage of infrastructure provided by the institution. But Jenny wasn’t sure that this space would be visited quite so often - not until you could make a cup of tea in cyber space!” (BRIS-c4, story 2)

---

<sup>179</sup> Wikispace is an online collaboration tool which allows multiple users to interact and work together. For more information, see: <http://www.wikispaces.com/>

In the quote above, we note the freedom of expression gained by BRIS-c4 through using the third person voice in writing the story.

The data also suggests that staff have opportunities to challenge their sustainability thinking and actions when engaging in dialogue and interaction which are free from formal power relations. The research identified that social interactions with the following characteristics were more likely to influence staff sustainability understanding and practice:

- are not hierarchical;
- involve learning from and with each other; and,
- occur within safe environments and comfort zones.

As interpreted from Glasser (2007), non-hierarchical dialogues are those which challenge possible power relations which take place in social learning processes (eg., power relations established between staff with different responsibilities and roles in the institution). Wals et al. (2009) explain that 'learning from and with each other' refers to those interactions where staff can learn about sustainability through exchanging ideas, visions and perspectives. It usually implies the negotiation of meanings and engaging in collective sense making. At one of the institutions, for example, an interviewee stressed that the 'learning from each other' component of social learning was important to change actions of members of staff:

"I think people learning from each other, they learn from each other and they start to pick up what they learn and use it in different ways." (BRAD-int1, 9 August 2010)

These fruitful exchanges were identified as to taking place in safe environments and comfort zones. The context where dialogue take place usually encourages staff to trust in each other. For example, BRAD-int4 emphasised that:

"If you have those kind of people (key people who engage others in sustainability dialogues) and a bit of trust in the group it can emerge the learning through conversations." (BRAD-int4, 10 August 2010)

(ii) Social learning as a facilitated or planned process

Three different types of facilitated or planned social learning for sustainability processes have been identified by the research. These are: extra-curricular interventions; partnerships and networks; mentoring; and participatory and action research.

- *Extra-curricular interventions*

Extra-curricular interventions in higher education as explained by Lipscombe (2009) consist of engaging staff and students in learning outside the formal curriculum. Although Lipscombe offers an interesting framework which consists of a wide variety of sustainability learning opportunities, my research has explored social learning with a broader perspective.<sup>180</sup> It has captured where social learning occurs (what type of extra-curricular activities) and how this learning is taking place (quality of the learning process). I have also looked at how it influences or may be influenced by institutional cultures.

The common sustainability extra-curricular activities identified in the institutions studied are the following:

- (a) on- and off- campus formal and informal events;
- (b) sustainability campaigns and engagement initiatives;
- (c) on- and off-campus volunteering activities; and,
- (d) formal and informal communities of practice<sup>181</sup>/multi-stakeholder dialogue

Whereas some of these extra-curricular practices were identified in several stories written by co-researchers, others were identified through the discussions taking

---

<sup>180</sup> Please refer to chapter 3, section 3.4.1 to view my interpretation or definition of social learning for sustainability in higher education.

<sup>181</sup> As communities of practices, I include those activities which involve groups of people who share similar interests and work towards achieving certain sustainability goals in a collaborative way (Wenger, 1998).

place during the collective memory-work sessions, interviews, discussions with staff and documentary review.<sup>182</sup>

Table 8.3 captures some examples of these extra-curricular activities identified in the institutions studied. The table is not an exhaustive list of those activities which encourage social learning for sustainability taking place in these institutions. It tries to offer a glimpse of the diversity and types of practices which encourage social interaction in the area of sustainability.

**Table 8.3 Extra-curricular activities identified at the Universities of Bradford and Bristol**

Institution	Activity		Description
University of Bradford	Events	Ecoversity <sup>183</sup> Conferences (2008-2010)	These annual conferences have: <ul style="list-style-type: none"> <li>- reported feedback on sustainability progress within the Ecoversity project;</li> <li>- gathered students and staff from the University of Bradford to decide on future actions to take at institutional level; and,</li> <li>- attracted external visitors interested in sustainability issues in higher education.</li> </ul>
		Carbon and Energy Conference (2010)	This conference engaged staff from Bradford to explore ways in which the institution could address energy and carbon reduction.
		Ecoversity Seminar Series (2008-2010)	The seminars organised by the Ecoversity team in Bradford have engaged staff in sustainability issues such as: <ul style="list-style-type: none"> <li>- whole-institutional approaches to sustainability;</li> <li>- sustainability pedagogy;</li> <li>- various sustainability projects in higher education;</li> <li>- corporate social responsibility;</li> <li>- wellbeing and sustainability; and</li> <li>- sustainable community projects.</li> </ul>
		Learning, Teaching and Assessment Conference (2001-)	This conference has incorporated thematic areas and strands on sustainability and learning for sustainability giving the space for staff (engaged or not in sustainability) to share information and good practice, as well as to understand issues regarding learning for sustainability.
	Sustainability	Wellbeing Week	The Wellbeing Week aims to inspire a sense of healthy

<sup>182</sup> Please refer to table 8.8 to view what types of extra-curricular activities co-researchers described in their stories.

<sup>183</sup> 'Ecoversity' is the name given to the University of Bradford programme of embedding the principles of sustainability across the institution (University of Bradford, 2007).

	campaigns and engagement opportunities	(2010 -)	living, belonging and fulfillment for all members of the University of Bradford. The thematic week involves the organisation of workshops, activities and entertainment.
		Waste week (2009)	Ecoversity Waste Week was a student led week of activities addressing how students and staff could reduce waste and their carbon footprint. A series of social activities were organised to engage members of the University in taking part of this initiative.
		Kapow (2009)	Kapow is an University initiative to celebrate the rich diversity of cultures there is on campus. Different activities and social events related to cultural diversity and sustainable development were organised.
		Green Impact Awards (2010 -)	In 2010, the University of Bradford was one of 22 higher education institutions in the UK taking part in this Scheme. The Scheme involved individuals or teams taking responsibility for their immediate environment in terms of its sustainable behaviour patterns. An area can be defined as an office, a group of offices, a department, a particular corridor of offices. There were 17 areas within the University who signed up to take part in the Scheme in 2010.
	Volunteering		The Student's Union has a policy which enables staff working in the Union to engage in volunteering activities.
	Communities of practice	Ecoversity task groups	A task group is a group of engaged and informed people who can lead change in specific areas of interest to Ecoversity and themselves. There are currently seven tasks groups: <ul style="list-style-type: none"> <li>- Energy &amp; Carbon;</li> <li>- Education for Sustainable Development;</li> <li>- Food &amp; Drink;</li> <li>- Local Action;</li> <li>- Purchasing;</li> <li>- Reduce, Reuse, Recycle; and,</li> <li>- Integrated Travel.</li> </ul> <p>These task groups are, in principle, chaired by a senior manager at the institution who has not been involved in the area of activity previously.</p>
Allotment group		In 2009, staff and students contacted Ecoversity to express an interest in growing food on campus. The University decided to launch a new Growing Spaces Project. Staff and students are invited to take part in the group.	
University of Bristol	Events	Green Impact Awards Ceremony	The Green Impact aims to empower individuals and departments to reduce their environmental impact by encouraging, rewarding and celebrating practical environmental improvements. Any department from the University can participate. Each academic year, the University of Bristol celebrates best practices in sustainability and gives awards to sustainability champions.
		Public engagement events	The University hosts a range of public lectures and seminars on sustainability issues, featuring talks from academics, industrialists and leading environmental campaigners. Strong links have been formed with the Bristol Environmental Technology & Services Sector (BETS) and regular events are organised to support the BETS

			networking programme, demonstrating how university research can be transferred to industry and the wider society.
		Bristol University Sustainability Team (BUST) lecture programmes (2009)	BUST is a student society at the University of Bristol. In 2009, the society organised a lecture programme in the lead up to the 2009 Copenhagen Summit, <sup>184</sup> featuring talks from a range of leading environmental organisations.
Sustainability campaigns and engagement opportunities		Green Impact Awards (2008 -)	Any department from the University of Bristol can participate in this initiative. In the academic year 2009-10, fifty University departments took part in the Scheme. Their combined efforts resulted in about 1,350 sustainability actions being taken across the University.
		Sustainability Cafés (2009)	In 2009, a professor from the Environmental Sustainability Research Group at the University of Bristol organised a series of Sustainability Cafés. The format is based on World Cafés where people get together to discuss questions related to sustainability. The Cafés were open to anyone (from the University and the city of Bristol) and those with particular expertise were invited to participate. The Cafés were focused on developing a vision of what a sustainable city would look like, public transport, eco-housing, reducing carbon output, positive aspects of living sustainably and education. The Cafés were also supported with on-line discussion groups.
		Environment Week (2002-)	The Environment Week consists of the organisation of different events and forums for discussions on environmental and sustainability issues. The events usually provide information about what the University is doing to improve its environmental performance and about how staff and students can reduce their environmental impact.
	Volunteering		The University of Bristol recognises it has a civil responsibility to allow staff to take on public duties and engage in volunteering activities. The <i>Public Duties and Volunteering Policy</i> grants members of staff from the University one day's paid leave per year to undertake volunteering.
Communities of practice		Green Impact Awards Teams	The Green Impact Awards at the University of Bristol are key to advance the sustainability agenda at the institutional level and engage individuals and teams in undertaking this task. This research captured many social learning processes taking place within teams and departments participating in this initiative.
		Staff Club	The Staff Club is an initiative supported by the University which seeks to engage staff in social activities. The Staff Club is home to a wide range of different groups and societies, for example, the Allotment Gardening Group or the Walking Group. The Club has its own rooms and

<sup>184</sup> The Copenhagen Summit refers to the UN Climate Change Conference 2009 (COP15) held in Copenhagen, Denmark, December 7-18, 2009. For more information, please see: <http://www.denmark.dk/en/menu/Climate-Energy/COP15-Copenhagen-2009/cop15.htm>

			facilities, supporting social interaction among staff through the allocation of communal spaces.
--	--	--	--

It is difficult to ascertain which extra-curricular activities become social learning opportunities and which do not. From the interpretation and discussions of co-researchers, the activities which provided more challenging learning experiences in the area of sustainability and encouraged active social interaction are those associated with: certain sustainability engagement opportunities such as the Green Impact Awards; volunteering activities; and, especially, communities of practice/multi-stakeholder dialogue such as the allotment group or the task groups. These activities tend to involve active participation and co-learning amongst participants and seem to provide a mechanism to move from sustainability understanding to challenging mindsets, and providing an opportunity to change the status quo at the university or personal level. Table 8.4 below showcases some quotes from participants which illuminate some characteristics of the extra-curricular initiatives which encouraged social learning for sustainability.

**Table 8.4 Characteristics of extra-curricular activities which encouraged social learning for sustainability**

<b>Characteristics</b>	<b>As explained by research participants...</b>
From understanding to action	"I was able to use the staff volunteering time to build up projects on campus." (BRAD-int4, 10 August 2010)
Opportunity for experimenting and gaining new skills	"For me, it's about, sort of, um... It is having the connection with the local community, but also, it also gives you the chance to try out new ideas, gain new skills... So, I think there's a personal benefit as well as being able to sort of give your own time." (BRIS-int6, 15 September 2010)
Gaining new knowledge	"I think it's (task group) social learning for some I would say. For some members of the task group is and for some other it isn't. So each of the task groups has a specialist officer. So I've learned an enormous amount from being part of task group, but when I go to the recycling one, one of the people from the task group is the recycling officer. Well, it's not social learning for him, but it is for somebody else." (BRAD-int1)
Sharing different	"That kind of conversation (in the allotment group) is normal and it's ok to turn your phone off and talk about the future of the world.



perspectives	These conversations are involving staff, lecturers, students, Ecoversity staff, union staff and I like the staff-student interaction.” (BRAD-int4, 10 August 2010)
--------------	--

The information gathered, however, suggests that the most common extra-curricular activities facilitated in higher education institutions are the organisation of on-campus events and seminars. This was rapidly identified through a web search and the documentary review.

My research suggests that social learning opportunities limited to events alone can discourage staff participation and sometimes limit the emergence of free and non-directed conversations and dialogues in the area of sustainability. For instance, BRAD-c1, who called herself Heidi in her story, wrote:

“Heidi perceived that due to heavy work commitments, restricted numbers and the event format, the majority of staff were excluded from participating and there was a high level of senior staff attendance and minimal attendance from those in lower paid positions.” (BRAD-c1, story 1)

She also stated that:

“...informal discussion was constrained and restricted to management led events which directed conversation rather than letting it flow and develop freely.” (BRAD-c1, story 1)

BRAD-c1 quotes are important to analyse as they point to formal power relations which sometimes limit sustainability dialogues and discussions. Following Lukes’s<sup>185</sup> (2005) second-dimensional view of power, power relations operate when the possibility of participation does not exist. Although formal events organised by higher education institutions may be designed to encourage staff participation, the reality is that because of the formal structure, some staff do not engage meaningfully in sustainability discussions. The information collected implies that it is important to rethink the ways participation of staff in the

---

<sup>185</sup> Please refer to chapter 5, section 5.4.2, for more information about Lukes’s (2005) dimensional views of power.

institution can be enhanced through social learning processes. It also suggests that opportunities for social learning should not be confined to the organisation of conferences, seminars and other related or similar events.

- *Partnerships and networks*

The data gathered indicates that the catalytic role of external partnerships and networks in contributing to social learning for sustainability (as described in, for example, Mochizuki & Fadeeva, 2008; Tilbury, 2011c) is yet to be discovered. Joint events with the local community do take place at the universities studied and alliances have also been formed to support sustainability activities in the community. However, learning and knowledge is generally transferred through these events and meetings, rather than collaboratively developed or co-constructed as suggested by key social learning scholars such as Blackmore (2010) and Schön (2010).

The need for these forms of social learning was acknowledged to be important in order to bridge the links between the University and the local community. This was stressed by three research participants in one of the institutions studied (BRIS-c3, BRIS-int1 and BRIS-int2). BRIS-c3 recognised that public engagement events:

“...they're good events not just to communicating to the outside world what the benefits of University research are, but actually how we're trying to help society rather than doing mindless exercises just for the sake of it. But you also find that it brings academics together, because if they've got to explain what we do in simple terms so the public can understand, they often find that they can communicate to other academics and other people from the University a lot better as well, and you often find the link with other people that you just wouldn't get.” (BRIS-c3, 29 June 2010)

This institution has a Centre of Public Engagement<sup>186</sup> which facilitates the establishment of partnerships and knowledge transfer with the local community. Since sustainability has become important at the institutional level and many

---

<sup>186</sup> See: <http://www.bristol.ac.uk/public-engagement/>

researchers are engaged in research in this area, the centre has organised many sustainability outreach activities. I identified a great potential to encourage social learning processes in the area of sustainability through this Centre. BRIS-int2 explained that their role goes beyond formal learning activities such as lectures:

“Our role is to facilitate and help I guess embed or institutionalise public engagement within the University. So, lots of things like: working to build momentum with the academic community, find what it is already going on and try to capture that and share these experiences with others in many different ways. Um, also handle or organise lots of events ourselves, um, trying to get people to talk with academics and researchers, so there’s a chance to focus on two way interactions, rather than just having lectures or a formal lecture.” (BRIS-int1, 8 September 2008)

At the other institution, co-researchers did not identify any activities relating to learning partnerships or networks. An interviewee, however, ensured that much social learning was happening linking the community with the University. He stated that there were:

“Lots of research activities, a lot of community empowerment and community engagement initiatives, and the whole series of public events around faith in the city, debates, conferences...” (BRIS-int1, 8 August 2010)

The documentary review also helped me to identify networks established in this University in the area of learning for sustainability, such as the Sustainable Schools Network.<sup>187</sup> This interesting network does not explicitly encourage social learning among staff and students from the University and community schools. It is primarily focused on finding the ways in which the University can support schools to embed sustainability issues.

The research recognises that although learning partnerships and public outreach exist in both institutions, none address the need to develop staff capacity or

---

<sup>187</sup> This is a network which was launched in 2008 to “create a resource shared between Bradford University, and schools and colleges in the Bradford District interested in Sustainable Development” (University of Bradford, 2008, p. 1)

knowledge for change in the area of sustainability in higher education. Initiatives seem to focus on ensuring that sustainability knowledge generated at higher education institutions is extended beyond university walls (Tilbury, 2011c).

- *Mentoring, and participatory and action research*

The potential role of facilitated activities such as mentoring, participatory or action research in providing social learning for sustainability opportunities are not greatly acknowledged in either the documentation or the empirical research activities.<sup>188</sup> At one of the universities studied, an institutional action-research project was identified as part of the evaluation process of its sustainability programme. The institutional documentation acknowledges that action-research is important as it makes it “possible for everyone in the University to talk to each other, listen to each other and learn from what each other says and does.”<sup>189</sup> This process, however, was not explicitly meant to enhance the social learning experience at the University.

▪ *What is the purpose of social learning for sustainability?*

Processes associated with social learning for sustainability seem to have distinctive purposes. Research participants recognised that they help to exchange sustainability knowledge and best practice; bridge links between universities and their local community in the area of sustainability; bring staff from different backgrounds and disciplines together to discuss sustainability issues; build close relationships with colleagues in the area of sustainability; improve work related activities in the area of sustainability; or, enhance sustainability in the university agendas. Table 8.5 captures the purposes of social learning for sustainability as explained by research participants.

---

<sup>188</sup> The importance of these activities as social learning mechanisms has been outlined in chapter 3, section 3.4.1.

<sup>189</sup> For more information about this action research project, see:  
<http://www.brad.ac.uk/ecoversity/research/action.php>

**Table 8.5 Purposes of social learning for sustainability**

Purposes	As explained by research participants...
Exchange sustainability knowledge and best practice	<p>“So, more social learning it will be a good opportunity for exchanging ideas and that kind of thing.” (BRAD-int2, 10 August 2010)</p> <p>“At the awards ceremony, those present, ‘on the inside’ of the event were enabled to go out and spread the message of good practice...but this is in a backdrop of challenging and not blindly accepting. All authorised by the high levels within the organisation.” (BRIS-c1, story 1)</p> <p>“I think where people can also bring their own knowledge because, as we were saying, people both in the University and outside the University, we all wear different hats. So, if you are involved in a transition group and you go there to talk about sustainability, you want to bring something that you know about that because you have a lot of expert knowledge about that.” (BRIS-int2, 8 September 2010)</p>
Bridge links between universities and their local community in the area of sustainability	<p>“The seminars continued and John was now keen to start bringing in external speakers and making the events open to external organisations, in order to promote improved links between academia and industries linked to sustainable development.” (BRIS-c3, story 1)</p>
Bring staff from different backgrounds and disciplines together to discuss sustainability issues	<p>“They do free lunch concerts down in Victoria rooms and they’re really nice and sometimes small groups of us go down there and just to have that time out of the office and talking about, generally, we talk about work-related stuff. I can’t say that sustainability is always a hot topic, but... It’s just nice and people have different perspectives.” (BRIS-int2, 8 August 2010)</p> <p>“These conversations are involving staff, lecturers, students, Ecoversity staff, union staff and I like the staff-students interaction.” (BRAD-int4, 9 August 2010)</p>
Build close relationships with colleagues in the area of sustainability	<p>“This was the start of joining a new social circle where a group of staff attended events on and off campus as mates rather than work colleagues.” (BRAD-c1, story 1)</p>
Improve work related activities in the area of sustainability	<p>“... having an opportunity to force you to go out of it (your daily work) [...] (gives staff) a perspective back.” (BRAD-c3, 16 April 2010)</p> <p>“New relationships were fostered which not only improved Heidi’s friendship base but also aided working relationships, which ultimately made her work more productive.” (BRAD-c1, story 1)</p> <p>“And I quite like those events and I get quite a lot from them and then you go back to the office after an hour or whatever and you’ve done something different. I can crack on. So I do</p>

	think that they give people enthusiasm.” (BRAD-c1, 16 April 2010)
Enhance sustainability in the university agendas	“Karen feels that green issues will increase in their profile across the University and that by having this type of conversation within departments, sustainability will move higher up the agenda within University business, as they will increasingly appear as agenda items on committees that run the University.” (BRAD-c4, story 2)

- *What are the outcomes of social learning for sustainability?*

The study identified various outcomes resulting from social learning for sustainability processes:

- (i) Enhance innovation in research activities

The research suggests that social learning for sustainability provides critical opportunities for research innovation in the area of sustainability as it creates the space for reflecting on new ideas and improving collaborative research processes. In one of the institutions, for example, a co-researcher recognised that the impact of social learning is important as it is partly:

“...how ideas are generated and collaborative work comes together.” (BRIS-c4, 29 June 2010)

- (ii) Ensure sustainability engagement at the institutional level

The data suggests that encouraging social learning for sustainability may help to ensure the institutional engagement in sustainability. The study suggests that promoting certain types of social learning processes and creating structures for this learning to occur on a daily basis may assist in enhancing the sustainability performance of a higher education institution. This is important as commentators on sustainability in higher education have raised the point that when the funding recedes or key university champions take on new responsibilities or leave the institution, sustainability initiatives reveal their lack of support within the institution (Calder & Clugston, 2003b).

In one research memo written after the first collective memory-work session in one of the institutions, I wrote:

“The [sustainability project in this University] has helped to enhance the sustainability performance and developments of this institution. This is the final year of the project and members of staff are asking if the project can have a long term impact in the University community. Co-researchers stressed the importance of social learning in ensuring that sustainability learning will remain at the core of the institution. Social learning is viewed as a learning process which lasts, as it occurs on a daily basis. Through promoting social learning in the area of sustainability, the institution may be able to ensure that engagement in sustainability is possible even when there is no funding for implementing sustainability projects.” (Research memo, 9 March 2010)

(iii) Involve staff who are at different stages regarding their commitment to sustainability

The data captured in the institutions studied confirms that an extended full package of social learning interventions in higher education can reach both the ‘engaged’ and ‘non-engaged’ staff.<sup>190</sup> Evidence is provided by co-researchers of my research who were not previously interested in sustainability issues but who acknowledge that they engaged meaningfully in various social learning for sustainability activities. In section 8.4 of this chapter, I showcase how social learning has influenced these co-researchers’ understanding, practices and commitment in the area of sustainability. This finding extends Lipscombe’s (2009) results on extra-curricular activities. In his doctoral thesis, he concludes that the provision of a wide variety of extra-curricular activities can engage all types of staff at different stages of commitment to sustainability.

---

<sup>190</sup> I refer to ‘engaged’ staff to those members who are already involved in sustainability issues. I refer to ‘non-engaged’ staff to those people who have no previous understanding, commitment or interest on sustainability issues. Other authors such as Lipscombe (2009) refer to ‘converted’ and ‘non-converted’ staff.

(iv) Influence the formal curriculum

The research identifies certain impacts of social learning processes in influencing the integration of sustainability in the formal curriculum when support from the institution or senior managers exists. This was captured in both institutions. In one of the institutions, for example, the success of the allotment group in involving staff and students in growing their own food led to the creation of a new module in permaculture. BRAD-c1 explained that:

“The group ran for a year and successfully transformed the space into a working allotment. Charlotte expressed interest in permaculture as an option for students to take as an add on to their studies and the University again responded by sourcing the already present expertise, creating and offering an accredited permaculture module which can be tagged onto standard year 1 and 2 study.” (BRAD-c1, story1)

At the other institution, BRIS-c3, who called himself John in his story, states that he designed a new teaching module, partly, as a result of attending a networking event organised by different organisations from the local community and the University. He wrote that:

“It was an inspiring talk, but for John, the most powerful sentiment expressed by [name of business manager of a local company] was that he felt disappointed that Bristol University was doing very little in the field of Renewable Energy. John knew that the [name of his faculty] particularly the [name of his department], had all the necessary research strengths in areas such as turbine design, aerodynamics and composite materials to do something about this, and John felt determined to change [name of the business manager] opinion. Although the idea had been in John’s mind for some time, [name of the business manager] talk inspired John to develop a teaching module on Wind & Marine Power, which is now available to the majority of undergraduates [of his Faculty], and is taught jointly by University academics, staff from [name of the company] and several other renewable energy companies.” (BRIS-c3, story 1)



In the second collective memory-work session in this institution, BRIS-c3 acknowledged that this would not be possible without the support from his line manager. Therefore, this points the key role of senior managers in enabling sustainability actions resulting from social learning processes. The co-researcher stated that:

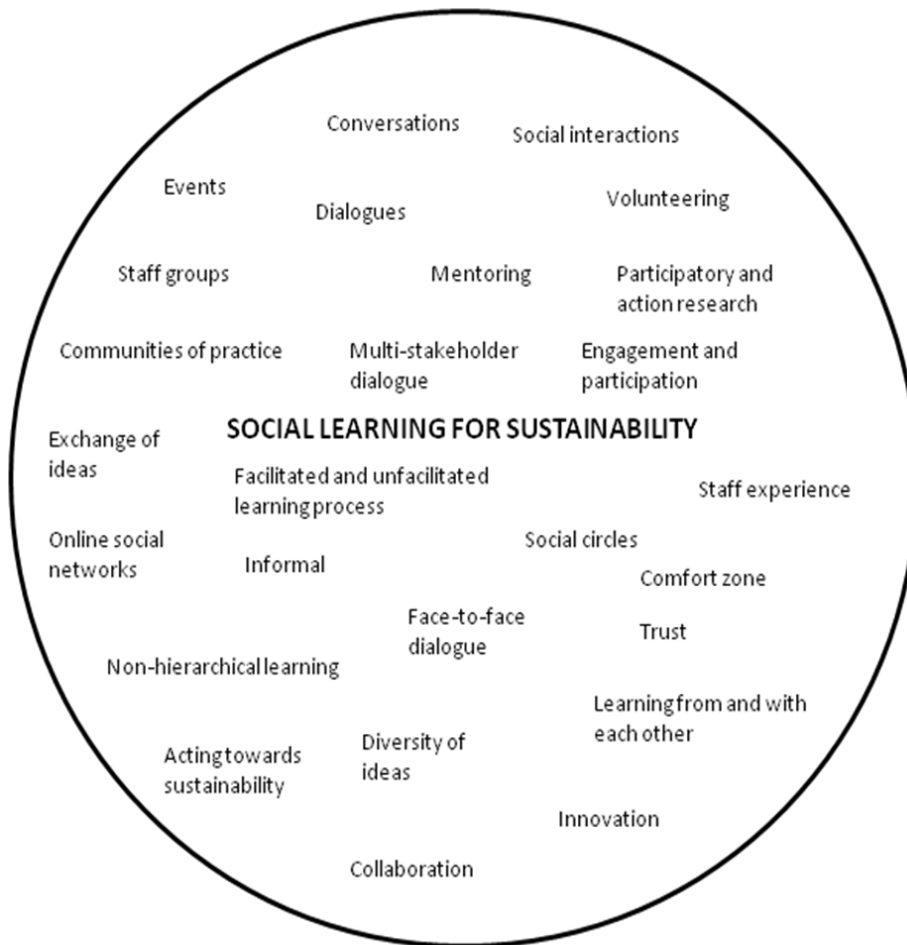
“...I think that a lot of it wouldn’t have happened because the things, for example, developing a teaching course... Unless you have got some form of senior support, you just can’t do it because they, you know, they say yes, we will, or no, we won’t.” (BRIS-c3, 14 June 2010)

- *Defining social learning for sustainability through keywords*

This sub-section has sought to clarify how social learning for sustainability occurs in the higher education institutions studied. It is important to note that none of the key documentation reviewed such as sustainability strategies, sustainability action plans or teaching and learning strategies had made any reference in relation to social learning when the review was undertaken. As it will be explained later on in section 8.3.3 of this chapter, only one document reviewed from one of the institutions studied, an *Undergraduate Prospectus*, has acknowledged the role of space in providing social learning opportunities. This is the only document reviewed where the term ‘social learning’ is spelled out.

Below, figure 8.2 showcases a range of keywords which describe what social learning for sustainability may mean in higher education. Figure 8.2 has been developed from the data and findings arising from the research. The keywords presented were referred by research participants and derived from the data interpretation.

**Figure 8.2 Social learning for sustainability – keywords**



### 8.3.2 Analysing key issues and components of social learning for sustainability

This sub-section analyses in depth three key issues which emerged from the research and which proved to influence how social learning takes place in a higher education institution. These areas relate to: (i) participation and engagement of staff in social learning for sustainability; (ii) institutional communication; and; (iii) levels of reflexivity and facilitation of social learning activities.

- *Participation and engagement of staff in social learning for sustainability*

Participation has been identified as a key strand of social learning processes and sustainability.<sup>191</sup> My research has sought to explore how members of staff engage in social learning processes and capture the different levels of participation in diverse kinds of activities.

Many different forms or levels of participation in social learning for sustainability activities were identified. Participation levels ranged from processes associated with consultation and/or passive engagement, to co-learning, deep analysis of issues and control of the outcomes (Dyball et al., 2007; Tilbury, 2007a). Passive participation forms were many times identified in activities such as the organisation of events. Whereas staff can exchange ideas and share best practice through attending different conferences or seminars, few opportunities are provided for staff to challenge their own practices and engage in change for sustainability. It is difficult for staff to apply concepts directly to their own area of influence as events tend to be generic rather than bespoke. Active participation forms include taking part in volunteering and communities of practice (such as participating in an allotment group, a committee or a task group). Staff involved in these activities seem to be more empowered to influence institutional change and decision-making processes in the area of sustainability.

The information suggests that academics, support and administrative staff as well as senior managers tend to engage and participate differently and have preferences for particular types of social learning for sustainability. The background, role, responsibilities and academic cultures of staff seem to influence the ways different members of staff engage (or do not engage) in social learning processes in the area of sustainability.

One co-researcher, for example, suggested that social learning was generally “a standard practice in academics” to exchange ideas and undertake collaborative research (BRIS-c4, 29 June 2010). The same co-researcher acknowledged that social learning is

---

<sup>191</sup> Please refer to chapter 3, 3.3.2, for an explanation of this key strand of social learning for sustainability.

not an accepted practice for administrative blocks because there is a feeling that “administrative and support staff don’t need to sit and chat” (BRIS-c4, 29 June 2010).

Upon closer inspection, academic staff participating in my research such as BRAD-c5 and BRIS-c5 argued that social learning is not a common practice in the academic arena. Various interviewees and co-researchers in both institutions acknowledged that promotion systems in place have a very strong focus on research achievements and are less supportive of activities which involve socialisation with staff and students. BRAD-c3, for example, acknowledged that:

“You have to share and share ideas and that’s been very difficult because none of the systems within the University like promotion promotes learning in that sense.”  
(BRAD-c3, 16 April 2010)

It was the perception of some co-researchers that senior management social interaction tended to be minimal or reduced to formal meetings. A co-researcher from one of the institutions studied wondered whether “there’s certain level where it (social learning) stops” (BRIS-c4, 29 June 2010).

- *Institutional communication*

The information gathered suggests that dysfunctional<sup>192</sup> forms of communication at the institutional level limit the possibilities for dialogue, negotiation and social learning. This finding is strong in the data as it was referenced many times during the study.<sup>193</sup> Key authors in areas such as organisational change for sustainability, such as Doppelt (2008, 2010), also confirm the need for addressing communication issues and altering information flows in order to engage institutions in change for sustainability.

---

<sup>192</sup> By dysfunctional communication, I refer to communication which results from poor information flows and social isolation within an institution. It prevents staff from engaging in social interaction or establishing and maintaining relationships with other colleagues.

<sup>193</sup> It was captured in 6 references and 5 data sources. Data sources include transcriptions from collective memory-work sessions and interviews in both institutions studied.

In many cases, communication issues seem to be primarily influenced by institutional cultural factors. In both institutions, research participants pointed at the institutional 'individualistic culture,' 'silo mentality' and 'isolation' as key cultural issues restricting information sharing, social interaction and communication. For instance, a co-researcher at one of the institutions stated that:

"The culture [...] is one of individualism where there is not a lot of sharing of information. This is why it is difficult to have conversations about non-work related themes. Because, at work, it is possible to go a whole day without talking to another member of the team..." (BRAD-c3, 16 April 2010)

The same idea was reiterated by different interviewees and co-researchers from the other institution. In the following interview extract, BRIS-int2 expresses her concerns about the ways communication issues are dealt with at institutional and departmental levels and, just like BRAD-c3, identifies the existence of a 'silo mentality' which restricts social interaction within the organisation:

"... organisations like this are quite bad at, you know, making sure that communication happens naturally. [...] The mentality is: I sit in my little area and maybe talk to the person next door in the office.[...] We're all in our little boxes." (BRIS-int2, 8 September 2010)

The data also suggests that the frequency of social interactions and communicative processes are many times reduced to those happening within the more immediate work environment of staff. As explained by an interviewee in one of the institutions:

"There isn't sort of a natural culture of the University of different departments coming together to do stuff" (BRIS-int3, 8 September 2010).

This finding suggests that social learning processes should be about bringing people from different backgrounds and disciplines together. This aligns with the literature which acknowledges that social learning for sustainability processes should involve stakeholders with different perspectives, enhancing pluralism and diversity of views

(Wals & Blaze Corcoran, 2006; Wals & van der Leij, 2007; Wildemeersch, 2007), in order to negotiate visions and pathways for the future (Tilbury & Mulà, 2009).<sup>194</sup>

- *Levels of reflexivity and facilitation of social learning activities*

The data reveals that social learning for sustainability opportunities offered in higher education primarily involve single-loop learning (or first order learning). As explained by Argyris and Schön (1978, 1996), this type of learning involves staff in challenging their actions and practice, but not pre-established values or beliefs in the area of sustainability. As an example, the attendance and participation of academic staff in management and formal events may inspire them to reflect on their teaching and research practices. However, these events may not lead staff to question their own sustainability values and thinking and how these are embedded in their professional activities. Key authors maintain that genuine social learning processes in the area of sustainability entail second-loop (or second order) learning processes (Glasser, 2007; Sterling, 2007; Wals et al., 2009).<sup>195</sup> Argyris and Schön explain that second-loop learning involves transformative learning and the questioning of personal mental models and underlying assumptions.

The information collected seems to indicate that the learning processes which have the potential to challenge staff assumptions in the area of sustainability are those which involve active participation, and negotiation of meanings and views. For instance, BRIS-c4, who called herself Jenny in her story, reflected on her sustainability learning arising from being part of a Green Impact working group in her department. The meetings taking place in her department on how to improve sustainability assisted her in reflecting on her own assumptions and views of other colleagues in the area of sustainability. In her story, she (Jenny) wrote about a conflict situation where her views were challenged by another colleague (Mary). She wrote:

---

<sup>194</sup> In chapter 3, section 3.3.2, I have further explained diversity of views and pluralism as key strands of social learning for sustainability processes.

<sup>195</sup> Please refer to chapter 3, section 3.2.1.

“Jenny enjoyed these meetings (Green Impact Awards meetings in her department) –a chance to think creatively about something she cared personally about –but couldn’t help but feel a sense of power struggle between her and Mary. Jenny had been used to being the ‘green goddess’ but now she felt challenged by someone, who couldn’t help but feel, cared more about putting ticks in the right boxes than ‘making the world a better place’.” (BRIS-c4, story 1).

In this situation, BRIS-c4 had to resolve an important conflict arising from participating in this community of practice. Through interaction amongst members of staff and negotiation of conflicts, participants of this community of practice could challenge their own and others’ understandings, beliefs and practices regarding sustainability.

The research suggests that there is a need to facilitate social learning for sustainability processes in order to enhance critical reflection and promote double-loop learning processes. This echoes arguments presented by the literature. Several scholars acknowledge the key role of facilitators in supporting quality social learning processes (Schön, 2010; Wals et al., 2009; Wenger, 2010; Woodhill, 2010). Facilitators have a role in dealing with power dynamics as well as dysfunctional forms of communication and interaction which my research has already identified (Blackmore, 2010). They can also assist in designing institutional social and cultural structures which support social learning processes in the area of sustainability. They play a significant role in ensuring that members of staff work on different learning orders ensuring a continuous and lasting process of institutional learning and change in the area of sustainability.

The study identifies the qualities which facilitators would need to have to mediate social learning processes in the area of sustainability in higher education. The research suggests that key facilitators of social learning for sustainability are staff who are: well-connected, people-oriented, with communication skills, positive, with a bigger picture idea and influential (see table 8.6).

**Table 8.6 Qualities of social learning for sustainability facilitators**

Qualities	As explained by interviewees....
Well-connected	<p>“I think [that] people [who] are at the edge of things. They are people right in the middle of things.” (BRAD-int4, 10 August 2010)</p> <p>“...People who are kind of well-connected in the University context and organisations outside the University. So, people who know Bristol well, but are quite curious about it and want to sort of share with other people.” (BRIS-int2, 8 September 2010)</p>
People-oriented	<p>“People who interact with lots of different groups, but on a deep level.” (BRAD-int4, 10 August 2010)</p> <p>“You have to enjoy people.” (BRIS-int1, 8 September 2010)</p>
With communication skills	<p>“They interact in different ways.” (BRAD-int4, 10 August 2010)</p>
Positive	<p>“They’re quite positive.” (BRAD-int4, 10 August 2010)</p>
Motivated	<p>“They are really motivated about a particular issue or they are really committed to...” (BRIS-int1, 8 September 2010)</p> <p>“It’s just the person who wants to do it badly enough and has confidence to hassle people.” (BRIS-int3, 8 September 2010)</p>
With a bigger picture idea	<p>“It’s people who have a bigger picture idea.” (BRIS-int1, 8 September 2010)</p>
Influential	<p>“It helps that I am a project manager, so I already have some influence.” (BRIS-int3, 8 September 2010)</p> <p>“Confidence, interest and having a bit of status.” (BRIS-int3, 8 September 2010)</p>

### 8.3.3 Exploring contextual influences

Understanding context has been an important undertaking in my study. Collective memory-work has helped to explore the historical context of universities regarding sustainability developments and learning opportunities. My study has also identified other contexts which influence the frequency and quality of social learning for sustainability. These include the (i) physical space or environment; (ii) academic context; and, (iii) institutional culture. This sub-section will focus on the first two. Institutional culture issues are further explained in section 8.5 of this chapter.



- *Physical environment*

The review of the data identifies that physical space is an important determinant of the quality and frequency of social interactions and learning. The role of physical space in enabling or limiting forms of social learning processes was captured many times at both institutions studied.<sup>196</sup>

In terms of quality, the information captured suggests that certain types of physical spaces can create the atmosphere for the emergence of social learning processes for sustainability (see table 8.7). In one of the institutions, a co-researcher stated that physical space:

“...has a big impact on what conversations, what learning and what socialisation goes on.” (BRAD-c3, 16 April 2010)

This statement was also reinforced by another co-researcher who explained that physical space:

“...dictates where the conversations happen to some extent and how people feel.” (BRAD-c5 , 16 April 2010)

Table 8.7 highlights critical elements and properties of physical spaces which determine the quality of social learning processes as identified by research participants.

**Table 8.7 Critical factors of spaces which influence the quality of social learning for sustainability**

Critical factors	Types of spaces which enhance the quality of social learning processes
Hierarchy	Spaces where there are “no signs of hierarchy” and “instantly bring everyone to the same level.” (BRAD-int4, 10 August 2010) Spaces “where the hierarchy of the organisation or people’s state in the organisation is left behind in a sort of way.” (BRIS-c4, 29 June 2010).

<sup>196</sup> It was captured in more than fifty entries and eighteen sources.

Ownership	<p>Spaces which are “not owned by anyone” (BRAD-int4, 10 August 2010 and BRIS-c3, 29 June 2010).</p> <p>“A space which is not owned, it’s not a science or a social sciences faculty space, it’s a University space.” (BRIS-c4, 29 June 2010)</p> <p>A space which is “...not owned by, you don’t feel it’s owned by anyone.” (BRIS-c3, 29 June 2010)</p>
Symbolism	<p>Spaces where “there are no signs of symbolism of the University.” (BRAD-int4, 10 August 2010)</p> <p>Spaces with plenty of sustainability messages (BRIS-c7 and BRIS-c4, 29 June 2010, and BRAD-int4, 10 August 2010).</p>
Serendipity	<p>Spaces where things happen without expecting them, where people can learn from fortunate discoveries (BRIS-c1, 14 June 2010 and BRIS-int3, 8 September 2010).</p>
Location	<p>“A big space always in the middle and it’s cheap so there’re reasons for people to go there.” (BRIS-int3, 8 September 2010)</p> <p>A space which is “...quite close to the sports centre where you can get a nice drink, you know, you see students there, academics from all different backgrounds, sit down on the grass, have a chat, and it’s not owned by, you don’t feel it’s owned by anyone.” (BRIS-c3, 29 June 2010)</p>
Atmosphere	<p>A space which creates a “sense of belonging” (BRIS-int-2, 8 September 2010), of being part of a “community” (BRIS-c4, 29 June 2010).</p> <p>Spaces “where you can come and sit down and you don’t have to buy anything and... there is some stuff there, obviously, but it’s non commercial, you can be informal and it’s a nice space.” (BRAD-int4, 10 August 2010)</p> <p>“Places where it is encouraged that you bring food, plenty of spaces to sit, plenty of paces to be out of the weather ‘cause it can be very cold here, plenty of nature, plenty of trees and edible trees and food everywhere, like plenty of symbols of sustainability, like water bugs everywhere, like outdoor fountain taps, like little sitting areas where you wouldn’t expect, plenty of shelter from the wind.” (BRAD-int4, 10 August 2010)</p> <p>A place which “would be naturally ventilated and it would have lots of yoga plants in all colours.” (BRIS-c3, 29 June 2010)</p> <p>A place where interaction and learning occurs through art (BRAD-int4 and BRAD-int5, 10 August 2010).</p>

In terms of frequency, the information collected suggests that the lack of social spaces reduces the opportunities to engage in social learning processes. Two co-researchers acknowledge that:

“Those words of mouth and social conversations, the serendipities are quite important really, and the University can help foster that by ensuring there are those spaces...” (BRIS-c7, 29 June 2010)

“Often, things such as social spaces, those are easy things to cut for whole bunch of teaching rooms or office space or whatever in what was a social space. When you reduce the territories that people have for those interactions, you reduce the chance of learning happening. I think it’s undervalued how much that affects people’s sense of belonging, their satisfaction in being part of this institution, being connected to their colleagues, being stimulated by their environment, um... just having a chance to interact with each other. I think that places that do... really well... in science, for example, there are lots of examples of these kinds of rooms where everybody, you have lots of people working on all sorts of different things, but they work really close together and they come together all the time.” (BRIS-int2, 8 September 2010).

BRIS-int2 quote above reinforces the need for universities to value the role of social spaces in building a sense of community and enabling conversations and interactions, in addition to enhancing or improving learning and research activities. Issues related to building a sense of community or sense of belonging at the institutions were highly emphasised by co-researchers and interviewees as key determinants for the emergence of social learning within an institution.<sup>197</sup>

The study reveals that higher education institutions value the role of physical space in providing opportunities for socialisation and breaking isolation barriers. But, more interestingly, the data collected implies that the distinctive culture and core activities of each institution influence the allocation of these spaces. For example, in one of the institutions which widely promotes the student learning experience and a whole institution approach to sustainability, there is an important emphasis on designing spaces which are conducive to learning and sustainability. The role of space in creating opportunities for social learning is expressed in the 2011 Undergraduate Prospectus. This is the only document from both institutions where social learning was explicitly mentioned:

---

<sup>197</sup> They were captured in 3 references in 3 different data sources.

“We want to create social learning spaces offering a wide range of entertainment – including sport and societies- that links directly the Library and which are available in the evenings and weekends.” (University of Bradford, 2011, p. 21)

This quote refers to the new Student Union space at this University which has been designed taking into account sustainability criteria and which, as also stated by an interviewee, it

“will be an amazing area of social learning” (BRAD-int1, 9 August 2010).

At the other institution which is a more research-intensive organisation, co-researchers of collective memory-work stated that some faculties of the University, especially technical and more science-focused departments, are: “quite good at providing social spaces” (BRIS-c3, 29 June 2010). A co-researcher, who works in a technical department, explained that he found it surprising that the spaces were so “widely used,” as engineers “aren’t typically the most sociable people” (BRIS-c3, 29 June 2010). The reason for that, as explained by BRIS-c2 (29 June 2010), is that the University recognises that “conversations are a spark of research projects” and, hence, this is why “they have them, in, in the science buildings more than the arts buildings, surprisingly.” This discussion with co-researchers from this institution was especially interesting because whereas they stated that more social spaces were allocated in faculties which traditionally have a stronger research culture, they also specified that research intensive contexts tend to restrict social learning practices (see below, under academic context).

- *Academic context*

This exploratory investigation indicates that social learning for sustainability is more likely to occur when universities, faculties and departments encourage a culture of innovative teaching and learning. This finding is particularly strong at one of the institutions. For example, an interviewee of this organisation acknowledged that certain Schools were very powerful in terms of promoting social learning activities because:

“They have a culture of taking learning and teaching more seriously. Um, or at least being prepared to innovate and trying new things. [...] It’s kind of an academic culture more supportive and collegiate than in lot of other places.” (BRAD-int2, 10 August 2010)

Also, in those departments where there is more of an “academic community” and “team spirit,” social learning becomes a common and accepted practice. Members of staff do socialise and exchange ideas, rather than focus on “producing a vast list of journal papers” (BRAD-int2, 10 August 2010).

Complementing or contrasting the finding above, the information collected suggests that academic contexts or cultures focused on research-intensive practices tend to restrict social learning processes for sustainability. In both institutions, co-researchers and interviewees emphasised this as one of the key barriers which reduces the possibilities for the emergence of social learning processes in the area of sustainability.<sup>198</sup> For example, an interviewee from one of the institutions stressed that the research culture of the organisation:

“...kind of inculcates an attitude of individualism” (BRAD-int2, 10 August 2010).

The information collected about social learning in the academic context also reveals that the diversity of staff involved in these processes is minimal. For instance, one co-researcher reflected on the research culture at his University. He stated that:

“...the nature of the University research [...] does not promote interaction with other, other departments, other faculties, other disciplines. A lot of times, they (academic staff) will be very single-minded within their own department...” (BRIS-c3, 12 May 2010)

Although key literature on social learning and sustainability acknowledges that diversity of perspectives and pluralism are pre-requisites for this type of learning process (Tydball & Krasny, 2007; Wals et al., 2009; Wals & van der Leij, 2007; Woodhill, 2010),<sup>199</sup> my research indicates that the reality is that higher education institutions are struggling to

---

<sup>198</sup> More specifically, I captured seven explicit references about this critical issue in five different data sources from both institutions.

enhance a diversity of ideas within social learning processes in academic or research intensive contexts.

#### **8.4 HOW CAN SOCIAL LEARNING SHIFT THINKING AND ACTIONS OF STAFF (WITHIN THE INSTITUTION) IN THE AREA OF SUSTAINABILITY?**

My doctoral thesis seeks to explore how social learning processes can shift thinking and actions of staff in the area of sustainability (please refer to figure 8.1). This is a challenging research question to resolve as members of staff in higher education are exposed to a wide variety of influences which can also shape their sustainability understanding, commitment or actions (eg., culture, media, societal context, etc.). Acknowledging this critical issue, I have tried to explore deeply various social learning experiences in the area of sustainability from members of staff participating in my research. Through one-on-one meetings and discussions with co-researchers during the collective memory-work sessions, I started to map what types and characteristics of social learning processes had challenged staff sustainability assumptions and practices. The analysis of stories of each individual co-researcher became crucial to understand staff experiences on social learning for sustainability. Below, table 8.8: (i) describes the types of social learning activities which co-researchers of collective memory-work explained in their stories; and, (ii) identifies the impact of each social learning experience. As stated, the level of impact is identified through the conversations established with co-researchers in one-on-one meetings and email contact as well as through analysing their learning stories and discussions. Co-researchers themselves did the co-relation highlighted in the table.

---

<sup>199</sup> Please also refer to chapter 3, section 3.3.2 for an explanation of this important strand of social learning for sustainability.

**Table 8.8 Impact of social learning for sustainability experiences**

Co-researcher	Types of social learning experiences identified in co-researchers' stories						Impact	Critical points – Level of change attributed to the social learning experience
	Facilitated social learning					Unfacilitated social learning		
	Events	Engagement initiatives	Volunteering	Communities of Practice	Partnerships and networks			
BRAD-c1	✓			✓		✓	<p>BRAD-c1 stressed that the level of change in her sustainability thinking and actions was particularly influenced by the informal sustainability dialogues established with another member of staff at the institution. BRAD-c1, in her story, acknowledges that:</p> <p>“This experience was the catalyst which ultimately changed Heidi’s habits both at work and at home. She met with Charlotte on campus over a cup of tea or pint and they often discussed issues around how to make Bradford a more sustainable place to live. Heidi enjoyed this opportunity to talk about the issue as, due to the lack of social events for staff and spaces for staff to take breaks during the working day, informal discussion was constrained and restricted to management led events which directed conversation rather than letting it flow and develop freely. This ‘led’ approach often results in initial enthusiasm regarding an issue being curbed and can ultimately hamper input from staff. “ (BRAD-c1, story 2)</p>	
BRAD-c3						<p>✓ Face-to-face and online communication</p>	<p>BRAD-c3 did not specifically talk about his social learning experience at the University of Bradford in his story. He primarily explained how dysfunctional forms of communication constrained social learning processes in his department. He also talked about the different cultural influences which may lead to institutional change towards sustainability.</p> <p>“What is clear to Andrew is that wider engagement around green issues has increased but not mainly as a result of informal or formal conversations in the department but from two external drivers. These being the institutional engagement with Ecovercity and the wider global / UK debate in the media and elsewhere (with related links to rising fuel costs etc.).</p>	

								Having moved to another University has made the Bradford journey clearer to Andrew. There has been a large change in culture and many more conversations about environmental issues. This is in stark contrast to Andrew's current situation elsewhere." (BRAD-c3, story 2)
BRAD-c4						✓		<p>This co-researcher emphasised the key role of conversations in changing sustainability practices in his department.</p> <p>"Having undertaken the Green Impact exercise again earlier this year, because the [name of department] were going for the Silver Award, I had to tackle areas of sustainability that I hadn't previously encountered in the work environment. That the award was achieved is testament to the fact that the new areas were embraced and dealt with, i.e. my engagement, thoughts and activity as a result of being involved in sustainability aspects in the institution have improved and increased.</p> <p>Simply being in the same office as [name of colleague] has meant that I am more aware of things in an ecological and environmental sense than I had been previously. I was able to produce a Newsletter for the area, which I did in consultation with [name of colleague]. This was a double-edged sword in that the exercise became a part of my NVQ in IT, so it makes up a part of my portfolio of evidence for the Artwork and Graphic Software module that I have done." (BRAD-c4, email extract 8 July 2011)</p>
BRAD-c5						✓		<p>This co-researcher reflected on various conversations which he established with another colleague. BRAD-c4 tried to challenge his colleague's thinking and actions in the area of sustainability through various dialogues that they established. Finally, after many discussions, he realised that part of his colleague's thinking was starting to change. This had been a slow process. BRAD-c5 acknowledged that these conversations can lead to small changes on people:</p> <p>"The point was that you can't change everything. You can't let things get on top of you. Conversations that you have, have a small impact on people and change their behaviour in small ways, and that was what I was hoping to illustrate." (BRAD-c5, story 1)</p>



BRAD-c7		✓				✓	<p>BRAD-c7 explains different conversations and meetings taking place in his department and how these influenced the ways he now understands and puts in practice sustainability. In his story, he firstly explained that his knowledge about sustainability was minimal before joining the University of Bradford. The different discussions he established with students and members of staff helped him to implement sustainability actions not only through his work, but also at home. For example, in his story, he states:</p> <p>“At one particular meeting a senior colleague on the University staff was remembering their days as a student back in the sixties or seventies and Brent found himself reflecting on his own journey. It suddenly struck him that instead of trying to increase beer margins or get the best band for the May Ball, everyone around the room, including himself were trying to make a difference for a future generation to live sustainably.”</p>
BRIS-c1	✓	✓				✓	<p>The conversations established in an event and the event itself assisted him in engaging more meaningfully in sustainability initiatives, such as the Green Impact Awards, held at his institution. He stated, for example, that:</p> <p>“He felt that the conversations had at that session were important, setting him up for the next iteration of improvement. This would make it easier. In fact, he would start as soon as a he left the meeting [and] look for the holy grail of improvement...” (BRIS-c1, story 1)</p>
BRIS-c2						✓	<p>The conversations established with another woman (Kate) working in the same building led her to embed sustainability in her job description. In her story, BRIS-c2 (Jane) explains that:</p> <p>“Kate was learning more from Jane about what technologies there were on the market that could be utilised. Jane was learning more from Kate about other areas of energy management. Sustainability was not a part of Jane’s job description, but quickly became embedded in everything she did.</p> <p>Encouraged by their social interactions, they started talking with each other about sustainability, influenced by Kate’s job needing to identify energy</p>

								<p>saving schemes. The time that it took them to achieve the projects that they did, was hindered by the fact that there was only one small kitchen for any social interaction.” (BRIS-c2, story 2).</p>
BRIS-c3	✓					✓		<p>Important conversations with members of staff and students led this co-researcher to start changing and implementing new actions and initiatives in the area of sustainability.</p> <p>“Social learning experiences in the University have definitely acted as a motivating influence for acting on ideas related to sustainability and taking new initiatives forward. For example, my story was related to a department review meeting, where staff and senior management responded positively to some of my ideas regarding the introduction of new teaching courses linked to sustainability topics such as renewable energy. This provided me with a large amount of motivation to develop these ideas further and actually implement some of them within our teaching programmes.</p> <p>In addition to experiences with staff/management, whose support is vital to enabling change within the University, social learning experiences with students have also been highly influential. It is through our students that I have really seen a demand for change in the University's approach to sustainability and greater integration of sustainability within our teaching programmes. The passion I have seen from our students through involvement with groups such as Engineers Without Borders (EWB), the Bristol University Sustainability Team (BUST) and undergraduates taking some of the new renewable energy courses that I have helped to implement, has again been a great source of motivation with respect to developing sustainability initiatives.” (BRIS-c3, email extract 9 July 2011).</p>
BRIS-c4		✓		✓	✓	✓	Face-to-face and online	<p>This co-researcher’s story focused on how her department had changed the way they operated and related to each other through engaging in sustainability issues and, more specifically, in the Green Impact Awards. BRIS-c4 acknowledged in an email that her engagement changed as a result of:</p> <p>“Whilst I think the Green Impact Awards scheme has been influential, I think</p>

						communica tion		it is maybe the relationships I have formed through my participation in the scheme that has made the most difference. It is good to have people to talk to about green issues who you know, think along the same lines as you do, but may also be able to challenge you and your thoughts at times. I also think that the fact that the Sustainability team are keen to keep the Green Impact Awards fresh each year is important." (BRIS-c4, email extract 26 July 2011)
BRIS-c7		✓	✓			✓		<p>This co-researcher explained the conversations she had with an external visitor about the concept of and approaches to sustainability. In her story she explained that:</p> <p>"The visitor's throwaway remark had triggered a new line of thinking for Lisa, and had made her realise that they were still in the earlier stages, addressing the most visible impacts, and how much of a 'long haul' changing behaviours and really embracing sustainability was going to be." (BRIS-c7, story 1)</p>

#### Levels of impact

	High	The social learning experience challenged the co-researcher's understanding, assumptions and actions related to sustainability.
	Medium	The social learning experience was important to the co-researcher's sustainability journey. The social learning process led the co-researcher to critically reflect on sustainability issues.
	Low	The social learning experience added awareness to the co-researcher's sustainability understanding or practice.

- *Critical points from staff experiences*
- High impact of social learning for sustainability activities is associated with informal face-to-face conversations and discussions with other colleagues. The role of dialogue in learning for sustainability is critical in shifting thinking and actions of staff.
- ‘Learning from and with each other’ is a component of many of the dialogues which are acknowledged to have a high impact on staff learning. Co-researchers have had the opportunity to share their views and ideas about sustainability issues and, at the same time, learn from other staff perspectives in this area.
- Two of the co-researchers (BRAD-c1 and BRIS-c2) who describe challenging social learning experiences recognise that their learning is restricted by the lack of social spaces in their institutions. As explained in sub-section 8.3.3, space is acknowledged to be a key determinant on the quality and frequency of social learning processes.
- As agents of change, co-researchers recognise that the outcomes from social learning processes require the support from senior and line managers. For example, BRIS-c3 states that:

“...unless you feel the support from the top then it gets difficult to get anything done” (BRIS-c3, 14 June 2010)

## **8.5 IS THERE A DIALECTICAL RELATIONSHIP BETWEEN SOCIAL LEARNING AND INSTITUTIONAL CULTURE FOR SUSTAINABILITY?**

This section tries to give critical responses to the third research question posed by my study: is there a dialectical relationship between social learning and institutional culture for sustainability? (please refer back to figure 8.1).

### 8.5.1 Does institutional culture influence social learning for sustainability?

- *Understanding of institutional culture in higher education*

The information collected suggests that higher education institutions are constituted of different sub-cultures which may share some common values, but in most cases have very distinctive ways of working, interacting and communicating. This complexity has already been acknowledged by key experts in this area such as Tierney (1998) and, Kezar and Eckel (2002).<sup>200</sup>

The following are some quotes from co-researchers discussing what institutional culture means to them:

“I think you cannot underestimate the degree to which the University is like a federation, a loose federation of mini states. There is a culture within each group...”  
(BRIS-int2, 8 September 2010)

“I think that a university or an organisation as large as a university does not have one culture. I think it has many cultures and I don’t think there’s ever a point where these cultures really work out alongside each other.” (BRAD-c2, 9 March 2010)

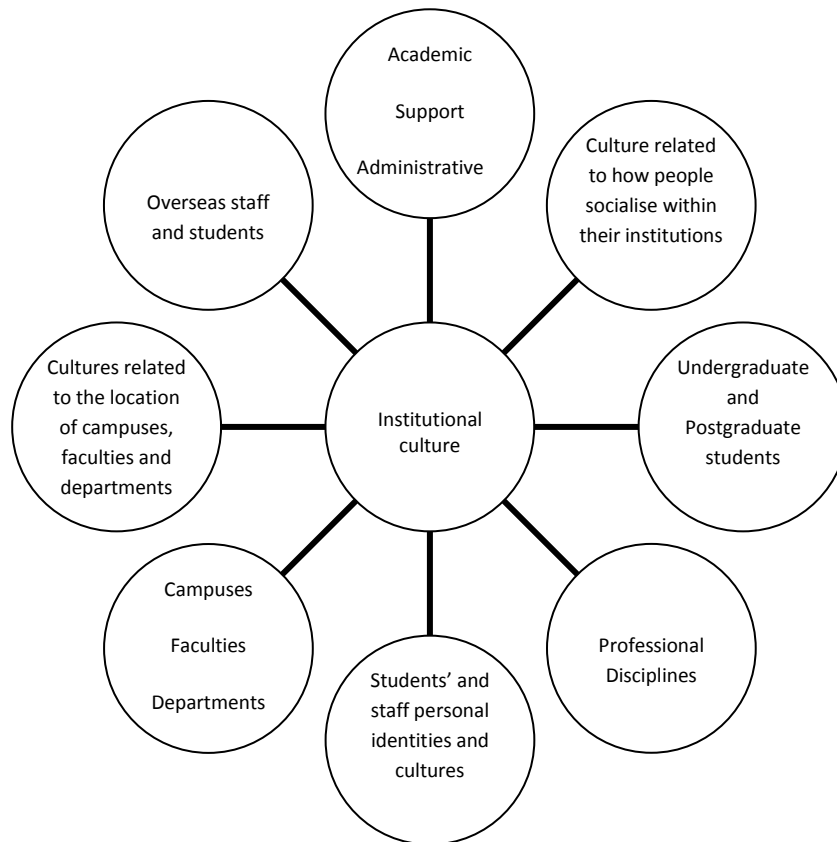
“Cultures reflect the ways, as you say, how people work and the deep kind of underlying values that people have [...] You get different teams, different sets of values, but probably there are some overarching things that think the various cultures across the university as well.” (BRIS-c7, 12 May 2010)

Different sub-cultures in higher education were identified by co-researchers of collective memory-work. These are represented in figure 8.3 below.

---

<sup>200</sup> Please refer to chapter 3, section 3.4.2, to understand how the literature has defined institutional culture in higher education institutions.

**Figure 8.3 Sub-cultures within the higher education institutions studied**



The sub-cultures identified in both universities are the academic, administrative and support staff as well as the student culture. For example regarding the latter, a co-researcher from one of the organisations emphasised that “the Students’ Union culture is different (from the institutional one)” (BRAD-c7, 9 March 2010). In the other organisation, BRIS-c2 (12 May 2010) also stressed that the culture of students is also different regarding undergraduate and post-graduate learners.

In terms of academic staff, different cultures were also identified. They were mainly related to staff disciplines and departments. One co-researcher at one of the institutions expressed a very interesting feeling which relates to the role of identity. He stated that:

“My sense of being here is: your identity is first and foremost to your discipline, your profession, yourself and your department. The University as your employer

comes well down on the list of how you identify yourself. You're a geographer, you work at the School of tarara. That's how you identify yourself..." (BRAD-c3, 9 March 2010).

Co-researchers also identified other sub-cultures in their institutions such as the cultures living on each of the campuses of the University (BRAD-c7, 9 March 2010) or faculties and departments (BRAD-c3, 9 March 2010 and BRIS-c3, 12 May 2010); cultures determined by the location of campuses and departments (BRIS-c4 and BRIS-c7, 12 May 2010); cultures from overseas people (BRIS-c2, 12 May 2010) and related to people's cultural diversity (BRIS-c3, 12 May 2010); or cultures related to how members of staff socialise within the institution (BRIS-c4, 12 May 2010).

My study suggests that it is important to take into account that staff from different cultures will socialise differently or take part in different types of social learning for sustainability processes. It stresses the importance of offering a wide range of social learning opportunities in which different staff coming from different cultures can engage in meaningful ways.

In addition, as mentioned (see section 8.3.2), my research also recognises that in order to promote quality social learning processes in the area of sustainability, it is pivotal to create mechanisms for people with different views, perspectives and cultural backgrounds to gather together and share their visions of sustainability. BRIS-c3, for example, stressed the importance of bringing people from different sub-cultures together:

"I think that social learning is about how the University would have managed to break down, not to get rid of, but to break down the barriers between sub-cultures." (BRIS-c4, 29 June 2010).

This quote from BRIS-c4 was taken from the transcript of session 3 of collective memory-work and provides data which suggest that co-researchers improved their understanding of social learning for sustainability processes throughout the research process.

- *Identification of cultural components which influence social learning for sustainability*

The interpretation of the data generated suggests that social learning for sustainability is more likely to occur when institutions (i) promote informal working and teaching and learning environments; (ii) encourage a sense of familiarity and community; and/or, (iii) create social spaces which are comfortable, informal and break isolation barriers. The information collected also suggests that those institutions, departments and teams which have allocated time and spaces for informal gatherings are more likely to encourage social learning processes. A co-researcher, for example, explained that:

“I think departments... department such as Chemistry, for example, Chemistry has tea time where everybody goes for tea. And it’s a huge department and they have a huge space for people to gather. So, those for me are prerequisites for social learning because you need to know that everybody is gonna turn up at a certain time and there’s the space to facilitate it. Whereas... other departments, such as the Art department don’t have any gathering spaces at all and people are working in their little corners. They don’t even know other colleagues... “(BRIS-int2, 8 September 2010)

My research identifies that this informal context is positively promoted in one of the institutions studied. This organisation highly promotes a sense of community within the institution, has created friendly atmospheres and spaces which encourage social interaction and is working towards enhancing the student and staff experience on campus. The fact that this University is smaller<sup>201</sup> and newer<sup>202</sup> in comparison to the other institution studied also helps to generate or create this type of atmosphere, in most cases, more likely to support social learning in the area of sustainability. Smaller institutions tend to embed sustainability and provide learning opportunities through central strategies and plans. This facilitates the organisation of social learning for sustainability activities and the involvement of staff who come from different sub-cultures. Smaller institutions are also more likely to encourage a sense of community,

---

<sup>201</sup> This institution has approximately 12,500 students and 2,500 members of staff. The other institution studied has approximate 17,900 students and 5,800 members of staff.

<sup>202</sup> This institution received the Royal Charter in 1966. The other institution studied received it in 1909.



which is ultimately a key factor influencing the emergence of spontaneous and informal dialogues and interaction. Newer institutions have more flexible structures which allow the integration of innovative practices in the area of sustainability. In more traditional universities, greater hierarchy has evolved over the years and more complex administrative and academic structures have been developed. In many cases, they operate with more autonomous strategies at departmental levels. Innovations in the area of sustainability seem to be more complex to integrate in traditional institutions.

Below, we can appreciate the different cultures which each institution promotes through their websites to recruit new students:

“[Name of the institution] has always been a forward-thinking, modern and student-orientated University. We have a firm commitment to confronting inequality and celebrating diversity, our students benefit from a multi-cultural learning environment, with students here from over 110 countries across the world. Overall the University has a close-knit, friendly atmosphere, enabling students to get to know each other quickly. We are constantly investing in our campus and facilities to ensure you have a world-class teaching and learning environment, state-of-the-art facilities and enhancing the vibrancy of the campus experience to make your time in Bradford truly one to cherish.”

“A world-renowned institution, the [name of the institution] offers you an exciting opportunity to study alongside internationally respected academics and talented fellow students in a supportive environment. We are very proud of our history but refuse to stand still. We believe our future will be just as impressive as our past. As well as having access to superb facilities, you will benefit from an intellectually demanding, research-informed education that encourages independence of mind. A Bristol degree is highly attractive to employers and a sound investment in your future.”

- *Value of social learning for sustainability at the institutional level*

The information captured reveals that, in theory, both institutions where my research was undertaken value social learning processes as a way to promote sustainability. At one of the institutions, for example, an interviewee clearly believed that:

“The University values social learning” in terms of “strategy” (BRAD-int5, 10 August 2010).

In practice, there is little evidence on how higher education institutions are supporting social learning processes to promote sustainability. This perception is captured in one of the institutions by an interviewee who stated that:

“So there are some structural things in there (to promote social learning processes) and I think the institution feels quite strongly that it does (it values social learning), but if you actually look at, if you actually studied how much people interact across the boundaries of their own team or whatever, it’s really, really low.” (BRIS-int3, 8 September 2010)

The institutional documentation review also confirms that social learning for sustainability is not supported at the practice level. This learning process is not overviewed by any senior manager, team or department, and is not part of any strategic action plan or key teaching and learning framework in any of the institutions where my research took place. Social learning is only explicitly spelled out in the *2011 Undergraduate Prospectus* from one of the institutions.<sup>203</sup>

### **8.5.2 Does social learning influence institutional culture for sustainability?**

My research suggests that it is still an early stage to confirm that social learning processes can lead to institutional cultural changes for sustainability in the higher education context. Because universities have just started to promote this type of learning, my research could not identify significant cultural changes as a result of social learning processes. The research identifies this task as a potential future research area. A longitudinal study is needed to ascertain the impact of social learning for sustainability on the institutional culture. Identifying the impact of social learning for sustainability processes at the institutional level can help organisations review their current strategies to transform institutional cultures towards sustainability.

---

<sup>203</sup> Please refer to section 8.3.3 of this chapter to view how social learning is spelled out in the mentioned document.

The research suggests that the lack of evidence on how social learning processes can change institutional cultures may be a result of the perception that social learning processes are difficult to measure. A co-researcher in one of the institutions, for example, explained this as:

“I think that the tricky thing for social learning is, again, that it is difficult to measure because a lot of positive outcomes may have actually come about by a conversation you’ve had in the corridor or in the kitchen or walking between meetings, but that wouldn’t be recorded anywhere or wouldn’t be seen as being a result of that conversation. You see what I mean? The fact you are encouraging social learning which isn’t always measurable... and that’s maybe why perhaps there’s not much focus on providing things like communal spaces and encouraging that.” (BRIS-c3, 29 June 2010)

An interviewee suggested that this issue could be dealt with appropriately if there was a team which had the responsibility of encouraging and monitoring social learning processes:

“I think if you broke it down to find it, I think the rhetoric would be yes, of course, we value social learning. But, I think that it’s one of those intangibles on how to capture it and how to measure it, it’s kind of a big thing to deal with outside the business of the University. It should be part of it possibly. Maybe there should be a team to look at it.” (BRIS-int2, 8 September 2010)

My experience in conducting the research leads me to suggest that this team should be located within a teaching and learning department, a sustainability team or a public engagement and outreach centre. These three departments work on providing social learning opportunities in the area of sustainability as well as enhancing sustainability knowledge exchange and innovation.



Below, I summarise the key points and findings arising from this chapter which have served to inform the development of indicators of social learning for sustainability.

▪ *How and where opportunities for social learning for sustainability exist in higher education?*

- 1) My research suggests that social learning for sustainability in higher education institutions tends to occur through facilitated and unfacilitated processes. The first includes staff participating in extra-curricular activities, partnerships and networks, multi-stakeholder dialogues, mentoring, or action and participatory research. The latter tends to occur as a spontaneous face-to-face process or through online social networks. Many times, face-to-face sustainability dialogues which are non-hierarchical, involve learning from each other, and occur within comfort zones, can shift thinking and actions of staff.
- 2) Research participants identified many different purposes of social learning for sustainability processes. These include: (i) exchange sustainability knowledge and best practice; (ii) bridge links between universities and their local community in the area of sustainability; (iii) bring staff from different backgrounds and disciplines together to discuss sustainability issues; (iv) build close relationships with colleagues in the area of sustainability; (v) improve work related activities in the area of sustainability; or, (vi) enhance sustainability in the university agendas.
- 3) Various outcomes from social learning for sustainability processes are identified by research participants. For example, the study suggests that this learning process has the potential to: (i) enhance innovation in research activities; (ii) ensure sustainability engagement at the institutional level; (iii) involve staff who are at different stages regarding their commitment to sustainability; and, (iv) influence the formal curriculum.
- 4) My research confirms that issues of participation and engagement of staff in social learning for sustainability, institutional communication, and critical reflection and facilitation are key influences of the quality of this learning process. The research demonstrates that active participation and co-learning, clear institutional

communication and high levels of reflexivity enhance the quality of social learning for sustainability processes.

- 5) Finally, the research evidence indicates that physical space and academic contexts can influence the quality and frequency of social learning processes in the area of sustainability. The lack of social spaces or a focus on research intensive cultures can limit the emergence of social learning for sustainability.
  - *How can social learning for sustainability shift thinking and actions of staff, as identified by research participants?*
- 6) It is difficult to ascertain how social learning for sustainability can shift thinking and action of staff in the area of sustainability. This is because many other influences such as the broader culture or media also influence the ways staff think about or engage in sustainability issues.
- 7) Social learning experiences as described by co-researchers of collective memory-work which had a high impact on the ways staff engage in sustainability, primarily took place through the establishment of informal dialogues with other members of staff.
- 8) Learning from and with each other was a key component of the sustainability dialogues explained by co-researchers. As a feature of these dialogues it appears that hierarchical relationships were suppressed and therefore staff had the opportunity to negotiate meanings about sustainability.
- 9) The key role of social space was emphasised by co-researchers who acknowledged that the establishment of those critical dialogues would not have occurred if space had not been provided for interaction.
  - *Is there a dialectical relationship between social learning and institutional culture for sustainability?*

- 10) Research participants acknowledged the great diversity of cultures and sub-cultures which a university embraces. The research acknowledges the importance of taking into account the diverse institutional identities and ways of socialisation in order to support social learning processes which are meaningful to all the institutional community.
- 11) In addition, the research also supports the value of social learning practices which involve staff from different cultures and perspectives in discussing issues related to sustainability.
- 12) The study reveals that social learning for sustainability is more likely to occur when institutions and departments (i) promote informal learning environments; (ii) encourage innovative teaching and learning; (iii) encourage a sense of familiarity; and, (iv) create social spaces for staff to meet informally.
- 13) Rituals and routines of departments, such as allocating time and social space for informal gatherings, encourage the emergence of social learning in an institution.
- 14) The research has identified that the universities studied tend to value social learning as a process which enhances and promotes sustainability. However, at the practice level, there are no mechanisms to support the implementation of this process at the institutional level.
- 15) The research has given evidence of how institutional cultures can influence the emergence of social learning processes in the area of sustainability. However, it states that it is still an early stage to confirm that social learning processes can influence institutional culture for sustainability.

## **CHAPTER 9 RESEARCH OUTCOMES, FINAL REFLECTIONS AND CONCLUSIONS**

### **9.1 INTRODUCTION**

In current times of economic unpredictability, increasing competitive and changing markets, declining enrolments and cuts in the higher education sector, universities are starting to question their internal operations, core mission and relative position in the market (Alstete, 1995; Jackson & Lund, 2000). Increasing competition has pushed universities to reflect on and assess their sustainability performance. Increasingly, they are engaging in this agenda through participating in national and international benchmarking and ranking initiatives which assist them in sharing best practice and learning from other institutions in the sector (Schofield, 1998). In chapter 4, I have reviewed a wide range of benchmarking frameworks which seek to assess the contributions of higher education institutions in sustainability. I have drawn attention to those tools which have included indicators which assess learning processes associated with sustainability. These frameworks include: the Universities that Count (UtC) and People&Planet Green League in the UK; the Sustainability Tracking, Assessment and Rating System (STARS) in North America; the Alternative University Appraisal (AUA) for Education for Sustainable Development in the Asia-Pacific region; and, the Austrian Sustainable Universities Awards.<sup>205</sup> I have argued that sustainability benchmarking initiatives have focused on assessing the status and mechanisms in place to support sustainability education in higher education, and have not ventured into the assessment of transformative processes underpinning learning for sustainability. I have also stated that the role of social learning in facilitating change for sustainability has been overlooked by these frameworks.

The intention of my research has been to understand how social learning for sustainability takes place in a higher education institution, so that universities know what they should be looking at when supporting this learning process. In this chapter, based on the findings arising from the empirical research, I present an indicator framework which can assist institutions in improving their contribution to social learning

---

<sup>205</sup> Please refer to chapter 4, section 4.5, for more information about these benchmarking frameworks.



for sustainability. It is hoped the indicators developed can primarily assist in self-assessment processes, but also serve to inform sustainability benchmarking schemes. This chapter then turns its attention to delineate the overall contributions of my study to the field. I then synthesise and share final reflections on the development of the research and identify the limitations of the study. Finally, I suggest potential research avenues in the area of social learning for sustainability in higher education.

## **9.2 A FRAMEWORK OF INDICATORS OF SOCIAL LEARNING FOR SUSTAINABILITY**

The indicators proposed in this chapter have been developed taking into account the findings arising from the empirical research conducted at the Universities of Bradford and Bristol (see chapter 8) and the literature review on indicators provided in chapter 4. It is important to note that in order to construct the indicators, I have only used those findings which are significantly relevant to enhancing the social learning for sustainability experience within a higher education institution as well as those findings in which evidence can be provided to demonstrate that an indicator can be achieved by an institution. For example, an important finding of my research as explained in chapter 8, section 8.3.3, refers to the academic context and culture of a higher education institution. My research has identified that those departments, faculties or institutions which promote innovative teaching and learning activities are more likely to provide social learning for sustainability opportunities. Although this is an important result arising from the research, I have not been able to draw an indicator in this area which is measurable and easy to deal with by institutions interested in promoting social learning in the area of sustainability.

### **9.2.1 Self-assessment and benchmarking indicators of social learning for sustainability**

In this sub-section, I firstly present a detailed set of questions/indicators for those institutions which are seeking to promote social learning for sustainability (see table 9.1). The self-assessment indicators aim to assess if and how social learning for sustainability is happening in a higher education institution and encourage further developments in this area. Table 9.1 presents the different areas of assessment, the

indicators defined, evidence which can help institutions meet the indicators, and a brief explanation of why the indicators defined are important.

Secondly, I present a condensed set of questions/indicators which can be integrated in current sustainability benchmarking systems in higher education (see table 9.2). The benchmarking indicators intend to identify the state of play regarding social learning for sustainability in higher education institutions. Table 9.2 presents the different assessment areas, indicators defined, and potential evidence to achieve the indicators.

Qualitative researchers such as Lincoln and Guba (2005) affirm that member checking processes enhance the research validity of qualitative studies (see chapter 6, section 6.5.2). Feedback on the indicators developed was solicited from co-researchers and key informants of my research which assisted me in revising and improving them. Appendix 9 includes the responses and feedback from research participants.

**Table 9.1 Self-assessment indicators of social learning for sustainability**

<b>LEAD</b>		
<i>Is there leadership for social learning for sustainability?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Is there evidence that social learning for sustainability is <b>led</b> by the institution?	There is a team/member of staff with allocated responsibilities to overview the implementation and evaluation of social learning for sustainability.	My research has found that the higher education institutions studied value the role of social learning for sustainability. However, at the practice level, there is a lack of leadership in this area.
	Central budget and resources have been allocated to this team to support social learning for sustainability.	The institution can make a difference in this area if a senior champion, team, department or sponsor is identified in order to support this agenda. The funding and resources allocated will also ensure that opportunities for social learning for sustainability can be provided.
<b>EMBED</b>		
<i>Is social learning embedded within the institution?</i>		

Indicator	Evidence	Why is this indicator important?
Has the university <b>embedded</b> social learning within its structures and strategic plans?	The sustainability strategy includes social learning for sustainability	My research has identified that social learning for sustainability does not feature prominently within the strategic documentation of the higher education institutions studied.  The institution can make a difference in this area through including social learning for sustainability within the institutional structures and strategic plans. This is important in order to demonstrate the commitment of the institution to promote this type of learning. It also facilitates reviewing and monitoring progress in this area.
	Learning and Teaching strategy(s) reflects on the importance of the role of social learning for sustainability.	
	A social learning for sustainability action plan is in place.	
<b>ENABLE</b>		
<i>Are there mechanisms in place to enable the emergence of social learning for sustainability?</i>		
Indicator	Evidence	Why is this indicator important?
Does the institutional culture <b>enable</b> social learning for sustainability through the allocation of appropriate social space?	<p>Social spaces exist which enable social interaction and learning for sustainability.</p> <p>These social spaces:</p> <ul style="list-style-type: none"> <li>- demonstrate principles of sustainability (eg., usage of environmentally preferable materials, natural ventilation, timers and temperature control, lighting sensors, etc.)</li> <li>- are informal and create friendly atmospheres. They are located near staff offices and departments to facilitate their access and usage.</li> <li>- avoid signs of hierarchy as they are not 'owned' by any faculty. They are university spaces open to all staff and students from different departments and faculties of the institution.</li> </ul>	<p>Social spaces have been identified by my research as key determinants of the quality and frequency of social learning for sustainability.</p> <p>Space has a big impact on what conversations, learning and socialisation takes place in a higher education institution. Social spaces also help to build a sense of community within the institution which is ultimately beneficial to break isolation barriers and enhance the social learning experience within the institution.</p>
	New builds and refurbishment plans contemplate the allocation of space with the characteristics outlined above.	

<b>SUPPORT</b>		
<i>Is social learning for sustainability taking place?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Are the social learning for sustainability opportunities <b>inclusive</b> of the different sub-cultures identified within the institution?	Provide examples of social learning for sustainability activities which target solely academic staff.	<p>My study has identified that the role, background and culture of staff influence the ways they participate and engage in social learning for sustainability.</p> <p>My study suggests that it is important to offer a wide range of social learning for sustainability opportunities in which different staff coming from different cultures and perspectives can engage in meaningful ways.</p>
	Provide examples of social learning for sustainability activities which target solely support staff.	
	Provide examples of social learning for sustainability activities which target solely administrative staff.	
	Provide examples of bespoke social learning for sustainability opportunities which target 2/3 of the above (social learning opportunities bring staff from different sub-cultures and disciplines together).	
Does the institution provide a wide range of different <b>types</b> of social learning opportunities?	Provide examples of <b>events</b> where staff can share ideas and best practice (eg., conferences, seminars, outreach events).	<p>My study has identified that higher education institutions tend to provide social learning opportunities primarily through the organisation of events. The research demonstrates that, in some cases, management led events can restrict staff participation and engagement with sustainability issues.</p> <p>My research suggests that the social learning experience can be enhanced if the institution provides a great variety of opportunities in this area. The activities which involve co-learning and active participation are more likely to challenge staff assumptions and practices in the area of sustainability.</p>
	Provide examples of sustainability <b>campaigns</b> and <b>projects</b> which promote social interaction and collaborative work (eg., Green Impact Awards).	
	Provide examples of <b>volunteering opportunities</b> in the area of sustainability where staff can try new sustainability ideas in campus (eg., there is a volunteering policy granting staff at least one day's paid leave per year to undertake volunteering work).	
	Provide examples of staff groups or <b>communities of practice</b> where staff can influence change for sustainability at the institutional level (eg., allotment groups, sustainability task groups, sustainability committees, staff social clubs).	

	Provide examples of <b>mentoring</b> opportunities for staff to reflect deeply on their underlying assumptions and how these are embedded within their professional practice.	
	Provide examples of participatory and <b>action-research projects</b> which build capacity of staff and knowledge to influence change for sustainability.	
Do social learning for sustainability initiatives provide opportunities for <b>critical reflection</b> ?	Training sessions are available to build staff skills as facilitators of social learning for sustainability.	My research has identified that most of the social learning for sustainability opportunities provided in the universities studied promote single-loop learning, i.e. they may challenge staff practices, but fail to question underlying assumptions related to sustainability.  Institutions can provide second-loop social learning for sustainability ensuring that facilitators in this area exist. Facilitators can enhance critical reflection within social learning processes as well as dealing with participation and power relations.
	Social learning for sustainability is facilitated by trained staff or external persons.	
	Reflections and lessons learned arising from the social learning for sustainability sessions are captured.	
<b>IMPACT</b> <i>What is the impact and quality of social learning for sustainability?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Is there a commitment by the institution to measuring the <b>impact</b> and <b>quality</b> of social learning for sustainability?	There is a review and reporting process in place to monitor social learning for sustainability.	The research has identified that not all the sustainability opportunities offered outside the formal curriculum can be considered as social learning experiences. Social learning for sustainability involves active participation of staff, co-learning, trust, promotion of diversity and pluralism of ideas and provides opportunities for staff to challenge their own areas of influence.  In this context, the institution is committed to reviewing and reporting on the quality of the different social learning for sustainability activities organised and ensuring that the resources allocated in this area are not wasted. Measuring the impact of social
	There is evidence on how staff have challenged practices (including their own) and engaged in change for sustainability as a result of social learning for sustainability.	
	Stories of institutional change for sustainability as a result of social learning processes have been captured.	

		learning for sustainability is complex. However, it is important in order to draw lessons learned and improve the social learning experience in the area of sustainability within the institution.
--	--	--

**Table 9.2 Benchmarking indicators of social learning for sustainability**

Area	Indicator	Evidence
<b>LEAD</b>	Is there evidence that the institution is providing leadership in the area of social learning for sustainability?	A senior manager, member of staff or university team is responsible to overview the implementation and evaluation of social learning for sustainability.
		Central budget and resources have been allocated to this team/member of staff to support social learning for sustainability.
<b>EMBED</b>	Is there evidence that social learning is embedded within the institutional culture and strategic plans?	The institutional strategic documentation (sustainability strategy, sustainability action plan, teaching and learning frameworks) explicitly references social learning for sustainability.
		An action plan of social learning for sustainability is in place.
<b>ENABLE</b>	Is there evidence that the institution provides social spaces for the emergence of social learning for sustainability?	Social spaces which follow sustainability principles (eg., usage of environmentally preferable materials, natural ventilation, timers and temperature control, lighting sensors, etc.) are available within the institution.
		New builds and refurbishment plans contemplate the allocation of space for social learning for sustainability.
<b>SUPPORT</b>	Is there evidence that the institution is offering a wide range of social learning for sustainability targeting staff with different roles, cultures and backgrounds?	The institution provides social learning for sustainability opportunities through the organisation of events, sustainability engagement activities and campaigns, volunteering, staff groups and communities of practice.

		There are social learning for sustainability opportunities targeting staff from different roles, cultures and backgrounds (eg., academic, support, administrative).
<b>IMPACT</b>	Is there evidence that the institution is measuring the impact and quality of social learning for sustainability?	There is a review and reporting process in place to monitor the impact and quality of social learning for sustainability.
		There is evidence that staff have challenged their practice through participating in social learning for sustainability activities.

### 9.2.2 The indicator framework

- *Scope and overview of the indicators*
  - I have developed the indicator framework from the findings arising from the research conducted at the Universities of Bradford and Bristol. Therefore, they are context-based. The indicators developed can be used by universities with similar characteristics.<sup>206</sup> It is recommended that other institutions with different contextual realities seeking to promote social learning for sustainability analyse the relevance of the indicators and adapt them to their own needs.
  - The indicators defined are not meant to be a checklist for higher education institutions, but a flexible tool which can be adapted depending on the different contexts of institutions.
  - The first set of indicators (table 9.1) has been developed for self-assessment purposes. Universities interested in enhancing their profile regarding social learning for sustainability can use these indicators to identify whether social learning is supported appropriately and taking place, as well as measuring the quality of the social learning for sustainability experience provided by the institution. The second set of indicators (table 9.2) has been developed for benchmarking purposes. For this

<sup>206</sup> Please refer to chapter 8, section 8.2, and appendices 7 and 8 to understand the contextual issues of the University of Bradford and Bristol.

reason, I only propose five indicators which can serve institutions to know the state of play regarding social learning for sustainability.

- *Nature of the indicators*

- I have developed the indicators using a critical social theory perspective. The indicators (i) seek to empower institutions to engage in the social learning for sustainability agenda; (ii) stimulate critical reflection as they require institutions to capture lessons learned and measure the quality of learning processes; and, finally, (iii) engage institutions in change for sustainability as they require universities to reflect on the impact that social learning has on their staff and broader institutional culture. They are mindful of how power, context and history influence social learning opportunities.
- The framework of indicators has been designed taking into account the paradigm shift needed in order to assess genuine learning for sustainability processes. The indicators proposed (i) have been developed from critical and qualitative perspectives which allow the assessment of quality processes related to social learning to be ascertained; and, (ii) assess the transformative process associated with learning for sustainability.
- I propose different types of indicators to assess the components outlined above. Three broad types of indicators are defined: status, facilitative and effect indicators. Status or baseline indicators have been developed to identify whether social learning for sustainability is embedded in policy and action plans and whether resources have been allocated for its development. Status or baseline indicators have been primarily proposed in the areas of 'Lead' and 'Embed' social learning for sustainability. Facilitative indicators have been constructed to (i) identify the existence of support systems to promote social learning for sustainability (context or checklist indicators); and, (ii) the existence of social learning processes and activities taking place within the institutions (process or input indicators). Facilitative indicators have been proposed to assess the areas of 'Enable' and 'Support' social learning for sustainability. Finally, the framework includes effect indicators (outcome and impact indicators) to measure the achievements made through



supporting social learning for sustainability. Outcome and impact indicators are proposed to monitor the 'Impact' and quality of social learning for sustainability.<sup>207</sup>

It is hoped that universities who are interested in social learning for sustainability and wish to take this agenda a step further start assessing their contribution to this area through learning indicators. Learning indicators can help institutions to capture the quality of social learning for sustainability processes more deeply. They stimulate learning and reflection through the reporting process and data collection. They encourage innovation in research and best practice in this area.

- The indicators have been constructed taking into account the different parts of the system and their linkages. Individual indicators therefore should not be seen as indicative of quality. The combination of indicators will determine the progress made in this area and clarify the quality and impact of social learning for sustainability in a higher education institution. The indicators proposed (i) provide information on various attributes of social learning for sustainability and enable institutions to ensure that leadership exists in this area and that social learning is embedded, enabled and supported; and, (ii) establish links between different levels including personal (staff learning) and organisational (institutional culture).
  
- The indicators focus on social learning for sustainability rather than on learning for sustainability in the curriculum or sustainability more broadly. The links, however, are established. The indicators seek to engage institutions in contributing to the learning for sustainability and sustainability through supporting and enabling social learning. My research demonstrates, for example, that in order to embed social learning for sustainability within the institution, strategic documentation in the area of learning for sustainability and sustainability needs to acknowledge the role of this process.

---

<sup>207</sup> Please refer to chapter 4, section 4.4.3, where I explain in more detail the different types of indicators of learning for sustainability.

- *Data collection and reporting*

- I have developed the indicators taking into account the available data which universities should have already captured. The data or evidence suggested for each indicator should be relatively easy to access. However, because of the complexity and innovative nature of social learning for sustainability, some indicators will require that institutions set up new data collection systems.
- The literature review provided in chapter 4 indicates that institutions should collect data and report on the indicators using multi-stakeholder approaches. It is recommended that evidence is captured through involving staff from different roles, areas of expertise and backgrounds. This data collection technique will enhance the learning process which the indicators constructed try to stimulate.

This chapter now moves on to summarise the findings and contributions of the research and outline its limitations.

### **9.3 CONTRUBUTIONS TO THE FIELD**

In this section, I summarise the overall findings of the study in relation to the four questions posed by my research. This section provides a bird's-eye view of the key results presented in chapter 8 and section 9.2 of this chapter. I outline the findings taking into account the needs and contributions which my study was seeking to address as explained in chapter 1, section 1.2.

- *Framing and conceptualising social learning for sustainability in higher education*

Prior to my research, little was known about the nature, extent and conceptual framework of social learning for sustainability in higher education. There was a lack of research which provided an understanding of how this learning process can shift sustainability thinking and actions of staff, and enhance the sustainability performance in a higher education institution. As a result of my research, I can confirm that the key role of social learning in bringing about change for sustainability is valued by the universities studied. However, further developments in this area are required in order

to enhance the potential of this learning process to influence institutional cultures for sustainability. At the practice level, for example, I have also established that there is little support, resources allocated and leadership provided to move this agenda forward in higher education.

My research has provided a systematic review of how social learning for sustainability occurs in higher education. It demonstrates that this process tends to take place as both an unfacilitated and facilitated process. The first usually occurs as a spontaneous process based on informal dialogue and social interaction. This type of social learning for sustainability seems to be a common process within the university context. However, only those conversations which occur in comfort zones and are based on co-learning approaches with opportunities to challenge sustainability thinking and practice, can be categorised as social learning processes. The second usually occurs through the participation of staff in extra-curricular activities such as events, sustainability engagement activities, volunteering and communities of practice or through partnerships and networks, mentoring, and participatory and action research. The most common activity promoted by the institutions studied is the organisation of events and seminars. My research has pointed out that facilitated social learning for sustainability should be promoted through a great variety of opportunities and should not be limited to events alone. It has provided evidence that, in many cases, events tend to generate formal power structures which can restrict active participation of staff.

Currently, social learning for sustainability tends to provide single-loop learning opportunities. The research seems to indicate that higher education institutions can make a difference if they enhance the critical reflection underpinning this learning through facilitation processes. The role of facilitators of social learning for sustainability is important in order to ensure that staff engage in sustainability, take ownership of the results arising from this process, and engage in change for sustainability within their areas of influence (Schön, 2010; Wals et al., 2009; Wenger, 2010; Woodhill, 2010).

I have identified issues related to staff participation in social activities and institutional communication as key factors influencing the emergence of social learning. Institutions which work to break isolation and cultural barriers as well as identify staff participation

levels and styles in social processes are more likely to have greater social learning in the area of sustainability. The roles, identities, cultural background of staff seem to influence how they participate in social learning processes. For this reason, it is important that bespoke opportunities exist for all types of staff.

At the same time, higher education institutions can enhance the quality and frequency of social learning for sustainability through the allocation of social space which follows sustainability principles, is near to staff offices and departments, invites social interaction and avoids signs of hierarchy. Social space is important as it is where most of the social interaction in a higher education institution occurs.

The literature identifies the importance of embedding learning for sustainability within the institutional culture of a university (Gray-Donald & Selby, 2006; Sterling, 2004; Tilbury & Ryan, in print). However, it argues that only a few universities have achieved this as, generally, learning for sustainability initiatives tend to occur as case study research or on the fringes of organisations (Sharp, 2002). I am interested in studying how social learning for sustainability can influence, and is influenced by institutional culture. The reality is that my study has only provided evidence of how institutional culture is influencing this process. Several aspects and cultural factors have been identified by the research. My work has demonstrated that those institutions, faculties and departments which embrace a sense of community, provide informal learning environments and focus on innovation in the area of teaching and learning are more likely to provide greater social learning in the area of sustainability. Generally, this cultural atmosphere is present in newer institutions. In traditional universities, more complex administrative structures and greater hierarchy have evolved over the years. Their focus on research intensive activities does not always encourage social processes of learning.

My research has contributed to the literature offering a wide range of examples of social learning for sustainability based on experiences explained by staff participating in the study. Glasser (2007) points that this task is needed in order to create an accurate conceptual framework for social learning for sustainability. The experiences showcased by my research identify the impact of social learning for sustainability at a personal and

institutional level and give evidence of the types of contextual factors which influence the emergence of this learning process. In the literature review provided in chapter 3, I have had to clarify ideas related to social learning for sustainability with initiatives such as community projects and organisational management studies due to the shortage of examples in this area in higher education. My study has helped to fill in some of the knowledge gaps existing in the literature and opened new avenues of research in this important research field.

- *Improving universities' performance in the area of sustainability*

The literature review confirms that the potential of learning for sustainability experiences in influencing core institutional processes is yet to be discovered (Sharp, 2002). Social learning for sustainability seems to be a type of learning which can lead to change for sustainability as it stimulates collaborative and innovative research, reaches both the 'engaged' and the 'non-engaged' staff in sustainability activities and, in some cases, it can influence curriculum change for sustainability.

I can also confirm the key role of members of staff as change agents for sustainability. Whereas most of the learning for sustainability studies have focused on student learning, my research has demonstrated the importance of providing learning opportunities to staff in order to enhance the sustainability performance of an institution. Social learning processes have proved to be important mechanisms to challenge staff practices and empower them to engage in change for sustainability at the institutional level. However, in many universities, the potential of social learning for sustainability of staff in bringing about change and enhancing the sustainability performance is yet to be acknowledged. For this reason, in section 9.2, I propose indicators which can help institutions to move forward this important agenda. As mentioned earlier, the indicators have been developed from the findings arising from the empirical research.

The indicators developed emphasise the need for institutions to lead, embed, enable, support and measure the impact of social learning for sustainability processes. Constructed within a critical social perspective, these indicators seek to empower institutions and staff to engage in change for sustainability and reflect deeply on the

quality of learning provided. I propose two sets of indicators. The first set seeks to engage institutions which are committed to enhancing the social learning for sustainability experiences within the university. These indicators showcase where social learning for sustainability should occur and on how it should be promoted. They emphasise the importance of providing leadership in these area through embedding social learning for sustainability in strategic documentation, but also ensuring that this process is being implemented at the practice level. The indicators can help institutions know what types of social learning for sustainability activities are currently taking place and what other types of initiatives could be promoted to increase the transformative potential of this process. The second set of indicators has been developed taking into account the different benchmarking systems in place which measure progress in the area of learning for sustainability in higher education. I hope that my research can contribute to improving these benchmarking frameworks as the literature review provided in chapter 4 identifies that these tools have overlooked the important role of social learning in sustainability. The indicators proposed provide opportunities to institutions to know where they are in terms of supporting social learning for sustainability and learn from other experiences taking place in other universities.

- *Contributing to methodological innovation in sustainability research*

I consider that my research has contributed to methodological innovation in sustainability research demonstrating the possibility of employing collective memory-work through a critical social theory approach. As mentioned in section 6.3.1, collective memory-work has not been employed before in this research field. In the majority of studies, it has been used as a constructivist method which has helped researchers to develop theories based on multiple realities. My research has confirmed that this method is suitable to collect information in sustainability research underpinned by critical theories as it (i) challenges power structures existing in research processes; (ii) empowers co-researchers to reflect deeply on their own sustainability experiences and assumptions, and establishing relationships with the broader institutional contexts; (iii) stimulates discussion, critical reflection and dialogue; and, (iv) has the potential to engage co-researchers in change processes for sustainability. My research has contributed to building an accurate methodological framework for collective memory-

work as I have clearly detailed how validity threats can be addressed and have explicitly outlined a potential technique and strategy to analyse the information arising from this method. This is an important contribution as key authors of collective memory-work have acknowledged that researchers in this area are in weak positions for not clarifying how they analyse data, deal with research control issues and outline research validity strategies (Small, 2004).

I have been particularly influenced by Habermasian critical social theory and communicative action (Habermas, 1972, 1984, 1987) to conduct collective memory-work and explore staff ideas about social learning and institutional culture for sustainability. Habermasian communicative action has not taken agency for granted, but rather it has helped co-researchers to acknowledge their key role as social change agents for sustainability within their institutions and identify power structures which hinder the emergence of social learning for sustainability.

Communicative action theory has also provided me with a framework to explore the research topic in a participative approach and giving voice to co-researchers, as well as generating data based on the multiple realities of staff coming from different backgrounds and roles in the institutions studied. Conducting collective memory-work within this critical social framework has been especially interesting as it has enabled the exploration of social learning for sustainability acknowledging the importance of historical contexts and past experiences, but also analysing potential areas of improvement for future developments.

Framing collective memory-work within a critical social theory perspective has helped me to conduct research which is also in its nature transformative. In chapter 1, I explain that my research sought to make a difference through the research act itself. My intention was to create a certain impact on co-researchers and participating institutions. Through reviewing the data collected in the different collective memory-work sessions, I quickly realised how staff had developed a clearer understanding of social learning processes, sustainability issues and institutional culture through participating in my research. Throughout time, I could perceive that their discussions and analysis of stories were much richer and included complex understandings and conceptualisations. I

believe that enhancing the critical reflection of collective memory-work is crucial to upscale co-researchers' thinking in these areas.

It is difficult to ascertain the influence that my research has had in the institutions studied. Recently, the University of Bristol has explicitly outlined its commitment to improving its social and informal learning opportunities for students at the Change Academy<sup>208</sup> four-day residential 2011. Specific plans and actions are still to be developed. I am unable to confirm that my research has influenced this new strategic action developed by this institution. I suspect that my involvement in organising collaborative sessions with members of staff, interviewing senior managers, meeting various people within the institution, has helped in raising the importance of social learning processes in sustainability within this University.

#### **9.4 LIMITATIONS AND FINAL REFLECTIONS ON THE RESEARCH PROCESS**

Conducting research on social learning for sustainability in higher education has not been without limitations and challenges.<sup>209</sup>

Using two in-depth case studies to generate the data raised the first limitation of my study. The findings presented in chapter 8 and also summarised in the previous section of this chapter are context-specific. In principle, the findings are not able to be generalised. Barasa Atiti (2008) alerts us that if these case studies are poorly investigated, the research risks losing the great potential of the cases. Judging from the findings presented in the previous chapter and acknowledging the work which I have undertaken to become familiar with the contextual realities of the institutions studied, the Universities of Bradford and Bristol have become powerful case studies to analyse and generate important information for the research. It is important to clarify that my

---

<sup>208</sup> Change Academy is organised through a partnership between the Higher Education Academy and the Leadership Foundation for Higher Education. The project consists of a year-long process that includes specific development opportunities for nominated team leaders, an ongoing support network and a four-day residential providing the space for the whole team to focus on planning and developing strategies for lasting change. For more information, visit: <http://www.heacademy.ac.uk/ourwork/universitiesandcolleges/changeacademy>

<sup>209</sup> Please also refer to chapter 7 where I explain more specifically lessons learned and challenges faced during the research.



intention was not to build grounded theory and generalise findings. However, this does not mean that the findings generated could not be used by other institutions and researchers seeking to explore and improve social learning for sustainability processes. I encourage the reader to judge carefully my study taking into account the context in which it was framed, the challenges which I have had to overcome and the validity threats which I have had to face. Academics and universities interested in my research should identify those insights which can be useful and relevant to their institutional contexts and realities.

I was interested in conducting a study centred on a coherent research process which empowered co-researchers, challenged power relations, offered opportunities for critical reflection and social learning, and increased the knowledge and reflexivity in the area of social learning for sustainability of research participants. For this reason, I selected a small group of members of staff to work as co-researchers in each institution. I faced two major limitations. Although my research has identified that the thinking of co-researchers evolved significantly during the research process, the three sessions of collective memory-work and the one-one-one meetings organised were not enough to engage staff, for example, in challenging their practices. The other limitation I faced was that the overall picture captured of social learning for sustainability through collective memory-work was drawn by few staff who brought to the research their assumptions and values regarding the topic under research. Not all the participants had a full or accurate overview of sustainability and learning for sustainability issues at their institutions. For this reason, I found it crucial to triangulate the data from collective memory-work with other information arising from other research methods such as interviews and documentary review. This process has been important to analyse the contradictions and similarities of the data as well as to respond to the research questions reflecting theoretical saturation (Glaser & Strauss, 1967).

As in other qualitative studies, I struggled to respond accurately to issues related to rigour, quality and validity. I could not draw on previous research experiences in social learning for sustainability in higher education or studies using collective memory-work as a core method to investigate sustainability issues in higher education. I found no specific quality and validity strategies to enhance the rigour of the data generated by

collective memory-work in the literature. I faced this limitation engaging deeply in reviewing key literature in the area of qualitative research and critical social theory. I also created ways to address research control and analyse the data arising from the collective memory-work sessions. Making reflexivity an internal part of my research became crucial to identify my dominant views and values as a researcher and those of my research participants (Hall, 1996). As suggested by Bourdieu (2004), I tried to make explicit my own underlying assumptions and position as well as those from research participants. My research memos and journal became particularly helpful to interrogate intellectual biases, identify contextual and cultural influences and judge social positions. They helped me to rethink my role as a researcher and address issues which needed further attention (Jupp, 2006; Kvale, 2007; Williams, 2008). As an example, from the start, research participants struggled to define and conceptualise social learning as they interpreted it as action learning (i.e., learning arising out of their action taking) resulting from implementing sustainability within their roles at the institutions or the participation in sustainability events. I noted this as a critical issue of my study in my research memos and journal. In a research memo developed after one-on-one meetings with co-researchers from one of the institutions studied, I wrote:

“I need to emphasise to co-researchers the aims of this study more clearly. I am looking at the learning which occurs within the social and cultural context of the university. It is not about the work or professional experience in implementing sustainability. The learning which we will explore occurs through social engagement and interaction with sustainability. What have members of staff learned and experienced regarding sustainability outside their university roles (in implementing sustainability) and outside the institutional formal learning settings? Are there any key factors about the institutional culture/environment/social context which have influenced the learning of members of staff?” (Research memo, 8 March 2010).

Finally, although I solicited feedback to acknowledge the relevance and utility of the indicators developed, because of time constraints, I could not test the indicators in the institutions studied. I hope that this task can be further developed by other research studies in this area.

## 9.5 FUTURE RESEARCH

Several directions, themes and avenues for further sustainability research emerge from my study. In this section, I would like to suggest four potential research projects associated with (i) the dialectical relationship between social learning and institutional culture; (ii) social learning for sustainability of the student body; (iii) indicators of social learning for sustainability; and, (iv) collective memory-work as a critical method for sustainability research.

Firstly, my research has acknowledged that key relationships between social learning and institutional culture for sustainability seem to exist. My study has clearly identified how institutional culture influences social learning for sustainability. Due to the nature of my research, it was challenging to explore deeply how social learning influences institutional culture for sustainability. A longitudinal study is needed to explore how this learning process can assist institutions to engage in change for sustainability. Secondly, my research has focused on social learning for sustainability of staff. A comprehensive conceptual framework of social learning for sustainability in higher education requires that other studies look at how the student body engages in social learning for sustainability and what types of processes assist in challenging their thinking and practices in the area of sustainability. Thirdly, I have developed indicators to help institutions contribute to sustainability through the promotion of social learning. An important area of future research which my study opens up is associated with testing these indicators in various different cultural contexts. This research could assist in reframing the assessment tool and explore the transferability of my study. Finally, I have used collective memory-work to understand and reflect on staff experiences of social learning for sustainability. In order to continue exploring the potential of this method in sustainability research, I suggest analysing this method as an action-research technique. This would imply utilising the method to empower co-researchers to reflect deeply on their experiences and professional practices and engage them in change processes for sustainability.

## 9.6 SUMMARY

This concluding chapter has offered contributions and reflections on exploring, supporting and implementing social learning for sustainability in higher education. The chapter has firstly outlined and explained the indicator framework which my thesis proposes as a key research outcome and then has highlighted the challenges and limitations of the research. Finally, it has illuminated future research avenues for sustainability research.

The following key points summarise the conclusions and final reflections outlined in this chapter:

- 1) In current times of increasing competition, universities are pushed to reflect on their sustainability performance. In many cases, higher education institutions have engaged in this agenda through self-assessing their contributions to sustainability or participating in benchmarking and ranking systems. In chapter 4, I have reviewed various benchmarking and ranking frameworks which seek to help institutions to assess their performance in the area of learning for sustainability. The review indicates that social learning for sustainability has been overlooked within these frameworks. My research proposes indicators in this area filling some of the gaps identified.
- 2) In this chapter, I propose indicators which can be used for self-assessment and benchmarking purposes. The first can assist institutions which are committed to or interested in enhancing the social learning for sustainability experience within the university. The second are meant to be used in existing benchmarking frameworks which seek to assist institutions assess their contribution to learning for sustainability.
- 3) The indicators seek to assess whether universities lead, embed, enable, support and measure the impact of social learning for sustainability. They have been constructed from the research findings arising from my empirical research and through a critical social theory approach. Status, facilitative and effect indicators have been identified

for the different assessment areas. Potential evidence has been proposed in order to help institutions meet or achieve the indicators.

- 4) The chapter has highlighted the various contributions of my research to the field. The research has contributed to advance the development of a conceptual framework of social learning for sustainability in the context of a higher education institution. It has provided a systematic review of how this learning process occurs in higher education and can shift thinking and actions (within an institution) in the area of sustainability. It has provided evidence on how it is influenced by institutional culture and proposes future research which looks at how social learning can shape institutional cultures for sustainability. My research has also contributed to assist higher education institutions in improving their sustainability performance through assessing and measuring progress in the area of social learning for sustainability. The research has proposed indicators which stimulate reflection and change in sustainability. Finally, the research has made a contribution regarding methodological innovation. My research has provided an understanding and methodological framework of how collective memory-work can be used as a critical social method in sustainability research. The study has proposed ways to enhance the critical reflection component of this method, undertake the data collection and analysis and address validity threats.
- 5) Using two case studies to generate the data raises the first limitation of my study as the findings cannot be generalised. The second limitation is the small group of co-researchers selected to explore social learning for sustainability within their institutions. Co-researchers do not entirely represent the whole staff community of an institution. Finally, the time for engaging co-researchers in the study is another limitation.
- 6) I propose four different future research avenues for sustainability research. These include: (i) conducting a longitudinal assessment to analyse how social learning can influence institutional culture for sustainability; (ii) develop an extended conceptual framework of social learning for sustainability through exploring how the student body engages in this learning process; (iii) conducting research associated with the

testing of the indicators proposed by my research in different cultural contexts; and, finally, (iv) employing and analysing collective memory-work as a research technique for sustainability action research.

## REFERENCES

- AASHE. (2010). *Sustainability Tracking, Assessment and Rating System*. Lexington and Denver: AASHE. Retrieved November 11, 2010, from <https://stars.aashe.org/>.
- Acton, C. (2000). *Community Indicators for Sustainability: A European Overview*. Leicester: Environment Trust.
- Agger, A. (1991). Critical Theory, Poststructuralism, Postmodernism: Their Sociological Relevance. *Annual Reviews Sociology*(17), 105-131.
- Alasuutari, P., Bickman, L., & Brannen, J. (2008). Data Collection and Fieldwork. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The Sage Handbook of Social Research Methods* (pp. 265-267). London, Thousand Oaks, New Delhi and Singapore: Sage Publications.
- Alstete, J. W. (1995). *Benchmarking in Higher Education: Adapting Best Practices to Improve Quality, ASGE-ERIC Higher Education Report No.5*. Washington D.C.: The George Washington University Graduate School of Education and Human Development.
- Althusser, L. (1971). *Lenin and Philosophy, and Other Essays*. London: New Left Books.
- Alvesson, M., & Deetz, S. (1996). Critical Theory and Postmodernism Approaches to Organizational Studies. In S. R. Clegg, C. Hardy & W. R. Nord (Eds.), *Handbook of Organization Studies* (pp. 191-217). London, Thousand Oaks and New Delhi: Sage Publications.
- American College and University Presidents Climate Commitment. (2006). *American College and University Presidents Climate Commitment*. Retrieved January 12, 2011, from, <http://www2.presidentsclimatecommitment.org/pdf/commitment.pdf>
- Amran, A., Abdul Khalid, S. N. A., Razak, D. A., & Haron, H. (2010). Development of MBA with Specialisation in Sustainable Development: The Experience of Universiti Sains Malaysia. *International Journal of Sustainability in Higher Education*, 11(3), 260-273.
- Anderson, J. (2000). The "Third Generation" of the Frankfurt School. *Intellectual History Newsletter*(22), 491.
- Archer, M. (1985). The Myth of Cultural Integration. *The British Journal of Sociology*, 36(3), 333-353.
- Archer, M. (1996). *Culture and Agency: The Place of Culture in Social Theory*. Cambridge: Cambridge University Press.
- Argyris, C., & Schön, D. A. (1978). *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Argyris, C., & Schön, D. A. (1996). *Organizational Learning II: Theory, Method, and Practice*. Reading, MA: Addison-Wesley.
- AtKisson, A., Stucker, D., & Wener, L. (2008). *Earth Charter Ethics-Based Assessment Tool: An Open-Source Tool for Evaluating the Sustainability of Organizations, Projects,*

*Initiatives, and Individuals*. San José, Costa Rica: Earth Charter International Secretariat.

- AUA/International Cooperation Initiative. (2010). *Alternative University Appraisal Model for ESD in Higher Education Institutions (Version 1.0 of March 2010)*. Mext: AUA/International Cooperation Initiative. Retrieved January 15, 2011, from [http://www.sustain.hokudai.ac.jp/aua/en/wp-content/uploads/2011/03/AUA-Self-Awareness-Questions-Guidebook\\_0330.pdf](http://www.sustain.hokudai.ac.jp/aua/en/wp-content/uploads/2011/03/AUA-Self-Awareness-Questions-Guidebook_0330.pdf).
- Augoustinos, M. (1999). Ideology, False Consciousness and Psychology. *Theory and Psychology*, 9(3), 295-312.
- Babikwa, D. J. (2004). Tensions, Contradictions and Inconsistencies in Community-Based Environmental Education Programmes: The Role of Defective Educational Theories. *Southern African Journal of Environmental Education*, 21, 61-80.
- Bachrach, P., & Baratz, M. (1970). *Power and Poverty: Theory and Practice*. New York: Oxford University Press.
- Bacon, C. M., Mulvaney, D., Ball, T. B., DuPuis, M. E., Gliessman, S. R., Lipschutz, R. D., et al. (2011). The Creation of an Integrated Sustainability Curriculum and Student Praxis Projects. *International Journal of Sustainability in Higher Education*, 12(2), 193-208.
- Balsas, C. J. L. (2003). Sustainable Transportation Planning on College Campuses. *Transport Policy*, 10(1), 35-49.
- Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs: Prentice-Hall.
- Barasa Atiti, A. (2008). *Critical Action Research: Exploring Organisational Learning and Sustainability in a Kenyan Context*. Doctoral Thesis, Macquarie University, Sydney.
- Barlett, P. F., & Chase, G. W. (2004). *Sustainability on Campus: Stories and Strategies for Change*. Cambridge, Massachusetts: The MIT Press.
- Barnes, N. J., & Phillips, P. S. (2000). Higher Education Partnerships: Creating New Value in the Environment Sector. *International Journal of Sustainability in Higher Education*, 1(2), 182-190.
- Bateson, G. (1972). *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* Chicago: University Of Chicago Press.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. New Delhi: Sage Publications.
- Bekessy, S. A., Samson, K., & Clarkson, R. E. (2007). The Failure of Non-Binding Declarations to Achieve University Sustainability: A Need for Accountability. *International Journal of Sustainability in Higher Education*, 8(3), 301-316.
- Bell, S., & Morse, S. (2005). Delivering Sustainability Therapy in Sustainable Development Projects. *Journal of Environmental Management*, 75(1), 37-51.
- Bell, S., & Morse, S. (2008). *Sustainability Indicators: Measuring the Immeasurable?* (2nd ed.). London: Earthscan Publications Ltd.
- Benayas, J., & Alba, D. (2010). *Sistema de Indicadores de Evaluación de la Sostenibilidad Universitaria. Propuesta de Información, diciembre 2010*. Madrid: CRUE-CADEP.



- Benayas, J., Alba, D., & Sánchez, S. (2002). Universidad y Desarrollo Sostenible. La Ambientalización de los Campus Universitarios. El Caso de la Universidad Autónoma de Madrid. *Revista ECOSISTEMAS 2002/3*.
- Benayas, J., Alonso, I., Alba, D., & Pertierra, L. (2010). The Impact of Universities on the Climate Change Process. In W. Leal Filho (Ed.), *Universities and Climate Change* (pp. 47-65). Berlin: Springer.
- Beringer, A., & Adomßent, M. (2008). Sustainable University Research and Development: Inspecting Sustainability in Higher Education Research. *Environmental Education Research, 14*(6), 607-623.
- Beringer, A., Wright, T., & Malone, L. (2008). Sustainability in Higher Education in Atlantic Canada. *International Journal of Sustainability in Higher Education, 9*(1), 48-67.
- Blackmore, C. (2010). Early Traditions of Social Learning Systems. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 1-4). London: Springer.
- Blake, J., Selby, D., Kagowa, F., & Chankley, B. (2007). *Pilgrims' Progress: The Slopes, Peaks and Sloughs of a Sustainability Policy Consultation. Sustainability and the Curriculum: Progress and Potential, University of Bradford, Bradford, July 2007*.
- Blaze Corcoran, P., Walker, K. E., & Wals, A. E. J. (2004). Case Studies, Make-Your-Case Studies, and Case Stories: A Critique of Case-Study Methodology in Sustainability in Higher Education. *Environmental Education Research, 10*(1), 7-20.
- Blaze Corcoran, P., & Wals, A. E. J. (2004). The Problematics of Sustainability in Higher Education: An Introduction. In P. Blaze Corcoran & A. E. J. Wals (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice* (pp. 3-6). Dordrecht, Boston and London: Kluwer Academic Publishers.
- Bormann, I. (2011). Communicating Education for Sustainable Development. In J. Godeman & G. Michelsen (Eds.), *Sustainability Communication: Interdisciplinary Perspectives and Theoretical Foundations* (pp. 97-108). London: Springer.
- Bossel, H. (1997). Deriving Indicators of Sustainable Development. *Environmental Modeling and Assessment, 1*(4), 193-218.
- Bourdieu, P. (1990). *The Logic of Practice*. Cambridge: Polity Press.
- Bourdieu, P., & Wacquant, L. J. (1992). *An invitation to Reflexive Sociology*. Cambridge: Polity Press.
- Bradbury, H., & Reason, P. (2001). Conclusion: Broadening the Bandwidth of Validity: Issues and Choice-points for Improving the Quality of Action Research. In H. Bradbury & P. Reason (Eds.), *Handbook of Action Research: Participative Inquiry and Practice* (pp. 447-455). London, Thousands Oaks and New Delhi: Sage Publications.
- Brannick, T., & Coghlan, D. (2006). Reflexivity in Management and Business Research: What Do we Mean? *The Irish Journal of Management, 2006*, 142 - 159.
- Breiting, S., Mayer, M., & Mogensen, F. (2005). *Quality Criteria for ESD-Schools: Guidelines to Enhance the Quality of Education for Sustainable Development*. Vienna: Austrian Federal Ministry of Education, Science and Culture.

- Breiting, S., & Schnack, K. (2010). The Action Competence Approach and the 'New' Discourses of Education for Sustainable Development, Competence and Quality Criteria. *Environmental Education Research*, 16(1), 59-74.
- British Sociological Association. (2004). *Statement Of Ethical Practice For The British Sociological Association*. Durham: British Sociological Association.
- Brown, V. A., Dyball, R., Keen, M., Lambert, J., & Mazur, N. (2005). The Reflective Practitioner: Practising What We Preach. In M. Keen, V. A. Brown & R. Dyball (Eds.), *Social Learning in Environmental Management towards a Sustainable Future* (pp. 224-246). London: Earthscan.
- Burke Johnson, R. (1997). Examining the Validity Structure in Qualitative Research. *Education*, 117(282-292).
- Cadman, K., Friend, L., Gannon, S., Ingleton, C., Koutroulis, C., McCormack, C., et al. (2007). *Memory-Workers Doing Memory-Work: Exploring Unresolved Power*. Paper presented at the Memory Work Conference, 6 August 2007, Sydney.
- Calder, W., & Clugston, R. M. (2003a). International Efforts to Promote Higher Education for Sustainable Development. *Planning for Higher Education*, 31, 30-44.
- Calder, W., & Clugston, R. M. (2003b). Progress toward Sustainability in Higher Education. *Environmental Law Reporter*, 33, 10003-10023.
- Calhoun, C., & Karaganis, J. (2001). Critical Theory. In G. Ritzer & B. Smart (Eds.), *Handbook of Social Theory* (pp. 179 - 200). London, Thousand Oaks and New Delhi: Sage Publications.
- Cargan, L. (2007). *Doing Social Research*. Plymouth: Rowman & Litterfield Publishers, Inc.
- Chambers, N., Simmons, C., & Wackernagel, M. (2000). *Sharing Nature's Interest: Ecological Footprints as an Indicator of Sustainability*. London: Earthscan.
- Chao-Jung, C., Gregoire, M. B., Arendt, S., Arendt, S., & Shelley, M. C. (2011). College and University Dining Services Administrators' Intention to Adopt Sustainable Practices: Results from US Institutions. *International Journal of Sustainability in Higher Education*, 12(2), 145-162.
- Chawla, L. (1998). Research Methods to Investigate Significant Life Experiences: Review and Recommendations. *Environmental Education Research*, 4(4), 383-397.
- Clarke, A. (2006). The Campus Environmental Management System Cycle in Practice: 15 Years of Environmental Management, Education and Research at Dalhousie University. *International Journal of Sustainability in Higher Education*, 7(4), 374-389.
- Clarke, A., & Kouri, R. (2009). Choosing an Appropriate University or College Environmental Management System. *Journal of Cleaner Production*, 17, 971-984.
- Clarke, B., & Button, C. (2011). Sustainability Transdisciplinary Education Model: Interface of Arts, Science, and Community (STEM). *International Journal of Sustainability in Higher Education*, 12(1), 41-54.
- Clugston, R. M., & Calder, W. (1999). Critical Dimensions of Sustainability in Higher Education. In W. Leal Filho (Ed.), *Sustainability and University Life*. New York, Berlin, Bern and Vienna: Peter Lang.

- Connelly, M., & Clandinin, J. (1990). Stories of Experience and Narrative Inquiry. *Educational Researcher*, 19, 2 - 14.
- COPERNICUS-Campus. (2010). *COPERNICUS-Guidelines for Sustainable Development in the European Higher Education Area: How to Incorporate the Principles of Sustainable Development into the Bologna Process*. Retrieved 15 January, 2011, from [http://www.codin.nl/system/files/copernicus\\_guidelines.pdf](http://www.codin.nl/system/files/copernicus_guidelines.pdf).
- COPERNICUS. (1994). *COPERNICUS University Charter for Sustainable Development*. Retrieved May 15, 2010, from <http://www.iisd.org/educate/declarat/coper.htm>.
- COPERNICUS. (2005). *Graz Declaration on Committing Universities to Sustainable Development*. Graz: COPERNICUS. Retrieved January 13, 2011, from [http://www-classic.uni-graz.at/geo2www/Graz\\_Declaration.pdf](http://www-classic.uni-graz.at/geo2www/Graz_Declaration.pdf).
- Cortese, A. D. (2003). The Critical Role of Higher Education in Creating a Sustainable Future. *Planning for Higher Education*, March-May 2003, 15-22.
- Cortese, A. D. (2010). The Urgent and Critical Role of Higher Education in Creating a Healthy, Just and Sustainable Society. . Presentation at the 2010 Presidents' Forum of Southeast and South Asia and Taiwan Universities, Tainan, Taiwan.
- Cotton, D. R. E., & Winter, J. (2010). It's not just Bits of Paper and Light Bulbs: A Review of Sustainability Pedagogies and their Potential for Use in Higher Education In P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education* (pp. 39-54). London: Earthscan.
- Council of the European Union. (2010). *Council Conclusions on Education for Sustainable Development*. 3046th EDUCATION, YOUTH, CULTURE and SPORT Council meeting Brussels, 18 and 19 November 2010. Brussels: Council of the European Union.
- Crawford, J., Kippax, S., Onyx, J., Gault, U., & Benton, P. (1992). *Emotion and Gender. Constructing Meaning from Memory*. London: SAGE Publications.
- Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Vol. 2nd edition). Thousand Oaks, London and New Delhi: Sage Publications.
- Dahl, R. A. (1957). The Concept of Power. *Behavioural Science*, 2(3), 201-215.
- Dahms, T., McMartin, D., & Petry, R. (2008). Saskatchewan's (Canada) Regional Centre of Expertise on Education for Sustainable Development. *International Journal of Sustainability in Higher Education*, 9(4), 382-402.
- Darder, A., Baltodano, M., & Torres, R. D. (2003). Critical Pedagogy: An Introduction. In A. Darder, M. Baltodano & R. D. Torres (Eds.), *The Critical Pedagogy Reader* (pp. 1 - 21). London: RoutledgeFalmer.
- Defra. (2010). *Measuring Progress: Sustainable Development Indicators 2010*: Defra. Retrieved 2 February, 2011, from <http://sd.defra.gov.uk/progress/national/annual-review/>.
- Delanty, G. (1999). *Social Theory in a Changing World. Conception of Modernity*. Cambridge: Polity Press.
- Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The Discipline and Practice of Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of*

- Qualitative Research* (3rd. ed., pp. 1-32). Thousand Oaks, London and New Delhi: Sage Publications.
- DfES. (2003). *Sustainable Development Action Plan for Education and Skills*. Retrived February 13, 2011, from <http://www.create.org.uk/downloads/SDactionplan.pdf>.
- Díaz González, M. J. (2009). *La Construcción de Políticas Públicas a Través de Procesos de Participación Ambiental: Las Estrategias de Educación Ambiental Autonómicas*. Doctoral Thesis. Universidad Autónoma de Madrid, Madrid.
- Doppelt, B. (2008). *The Power of Sustainable Thinking: How to Create a Positive Future for the Climate, the Planet, your Organization and your Life*. London: Earthscan.
- Doppelt, B. (2010). *Leading Change toward Sustainability: A Change-Management Guide for Business, Governments and Civil Society* (2nd ed.). Sheffield: Greenleaf Publishing Limited.
- Dyball, R., Brown, V. A., & Keen, M. (2007). Towards Sustainability: Five Strands of Social Learning. In A. E. J. Wals (Ed.), *Social Learning for a Sustainable World: Principles, Perspectives, and Praxis* (pp. 181-194). Wageningen: Wageningen Academic Publishers.
- Eder, D. J. (2004). General Education Assessment within Disciplines. *The Journal of General Education*, 53(2), 135-157.
- Edwards, A. R. (2010). *Thriving beyond Sustainability: Pathways to a Resilient Society*. Gabriola Island: New Society Publishers.
- Elias, D. G. (1997). It's Time to Change our Minds: An Introduction to Transformative Learning. *ReVision*, 20(1), 2-6.
- Elias, D. G., & Sachathep, K. (2009). *ESD Currents: Changing Perspectives from the Asia-Pacific*. Bangkok: UNESCO Bangkok.
- Estrella, M. (2000). *Learning from Change: Issues and Experiences from Participatory Monitoring and Evaluation*. Ottawa: International Development Centre.
- EU. (2005). *Communiqué of the Conference of European Ministers Responsible for Higher Education*. Retrieved 8 February, 2011, from [http://www.bologna-bergen2005.no/Docs/00-Main\\_doc/050520\\_Bergen\\_Communique.pdf](http://www.bologna-bergen2005.no/Docs/00-Main_doc/050520_Bergen_Communique.pdf).
- European Communities. (2009). *Sustainable Development in the European Union. 2009 Monitoring Report of the EU Sustainable Development Strategy*. Luxemburg: European Communities.
- Falk, J., & Dierking, L. (2002). *Lessons without Limit: How Free-Choice Learning is Transforming Education*. Walnut Creek: AltaMira Press.
- Fernández Arribas, M. (2011). *Educación Ambiental en Puerto Rico. Desarrollo de una Estrategia Nacional de Educación Ambiental a partir de un Proceso de Investigación-Acción*. Doctoral Thesis. Universidad Autónoma de Madrid, Madrid.
- Ferreira, J., Ryan, L., Davis, J., Cavanagh, M., & Thomas, J. (2009). *Mainstreaming Sustainability into Pre-service Teacher Education in Australia*. Canberra: Prepared by the ARIES for the Australian Government Department of the Environment, Water, Heritage and the Arts.

- Ferrer-Balas, D., Adachi, J., Banas, S., Davidson, C. I., Hoshikoshi, A., Mishra, A., et al. (2008). An International Comparative Analysis of Sustainability Transformation Across Seven Universities. *International Journal of Sustainability in Higher Education*, 9(3), 295-313.
- Fien, J. (1992). What Kind of Research for What Kind of Teaching? Towards Research in Geographical Education as a Critical Social Science. In D. Hill (Ed.), *International Perspectives in Geographical Education*. Boulder: University of Colorado.
- Fien, J. (1993). *Education for the Environment: Critical Curriculum Theorising and Environmental Education*. Geelong: Deakin University Press.
- Fien, J., & Hillcoat, J. (1996). The Critical Tradition in Research in Geographical and Environmental Education Research. In M. Williams (Ed.), *Understanding Geographical and Environmental Education: The Role of Research* (pp. 26-40). London: Cassel Education.
- Fien, J., & Maclean, R. (2000). Teaching for Sustainability. II. Two Teacher Education Projects from Asia and the Pacific. *Journal of Science Education and Technology*, 9(1), 37-48.
- Fien, J., Maclean, R., & Park, M. G. (2009). *Work, Learning and Sustainable Development: Opportunities and Challenges*. Guildford: UNEVOC and Springer.
- Fisher, C. B., & Anushko, A. E. (2008). Research Ethics in Social Science. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The Sage Handbook of Social Research Methods*. Los Angeles, London, New Delhi and Singapore: Sage Publications.
- Fleetwood, S. (2004). An Ontology for Organisation and Management Studies. In F. S. & S. Ackroyd (Eds.), *Critical Realist Applications in Organisation and Management Studies* (pp. 27-53). London: Routledge.
- Flick, U. (2002). *An Introduction to Qualitative Research* (2nd ed.). London, Thousand Oaks and New Delhi: SAGE Publications Ltd.
- Fontana, A., & Frey, J. H. (2005). The Interview: From Neutral Stance to Political Involvement. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 695-728). Thousand Oaks, London and New Delhi: Sage Publications.
- Foster, J. (2001). Education as Sustainability. *Environmental Education Research*, 7(2), 153-167.
- Foucault, M. (2000). *Power* (Vol. 3). First published as: *Dits et écrits, 1954-1984*. Paris : Édition Gallimard, 1994. New York: The New Press.
- Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Continuum International Publishing Group.
- Fukuda-Parr, S. (2004). Millennium Development Goals: Why They Matter. *Global Governance*, 10, 395-402.
- G8 University Network. (2008). *G8 University Summit Sapporo Sustainability Declaration* Retrieved 30 January, 2011, from <http://g8u-summit.jp/english/ssd/index.html>.
- G8 University Network. (2009). *2009 G8 University Summit Torino Declaration on Education and Research for Sustainable and Responsible Development* Retrieved

<http://www.g8university.com/pagine/pagina.aspx?ID=Reports001&L=EN>.

- Gallopín, G. C. (1997). Indicators and their Use: Information for Decision-Making. In B. Moldan, S. Billharz & R. Matravers (Eds.), *Sustainability Indicators: A Report on the Project on Indicators of Sustainable Development*. New York: Wiley & Sons.
- Gaventa, J., & Cornwall, A. (2001). Power and Knowledge. In P. Reason & H. Bradbury (Eds.), *Handbook of Action Research* (pp. 70 -80). London, Thousand Oaks and New Delhi: Sage Publications.
- GHESP. (2001). *The Lüneburg Declaration on Higher Education for Sustainable Development*. Retrieved February 11, 2011, from <http://portal.unesco.org/education/en/files/37585/11038209883LuneburgDeclaration.pdf/LuneburgDeclaration.pdf>.
- Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.
- Giddens, A. (1991). *Introduction to Sociology*. New York: W. W. Norton.
- Giddens, A. (1999). Elements of the Theory of Structuration. In A. Elliott (Ed.), *The Blackwell Reader in Contemporary Social Theory*. Malden: Blackwell.
- Giddens, A. (2006). *Sociology* (5th ed.). Cambridge and Malden: Polity Press.
- Giddens, A. (2010). A Politics for Global Warming. In A. Giddens & P. W. Sutton (Eds.), *Sociology: Introductory Readings* (pp. 98-103). Cambridge: Polity Press.
- Giroux, H. A. (2003). Critical Theory and Educational Practice. In A. Darder, M. Baltodano & R. D. Torres (Eds.), *The Critical Pedagogy Reader* (pp. 24-56). London: RoutledgeFalmer.
- Glaser, B., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine Publishing Company.
- Glasser, H. (2007). Minding the Gap: The Role of Social Learning in Linking our Stated Desire for a more Sustainable World to our Everyday Actions and Policies. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 35-62). Wageningen: Wageningen Academic Publishers.
- Glasser, H. (2010). An Early Look at Building a Social Learning for Sustainability Community of Practice: RCE Grand Rapids' Flagship Project. *Journal of Education for Sustainable Development*, 4(1), 61-72.
- Glover, A., Peters, C., & Haslett, S. K. (2011). Education for Sustainable Development and Global Citizenship: An Evaluation of the Validity of the STAUNCH Auditing Tool. *International Journal of Sustainability in Higher Education*, 12(2), 125-144.
- González-Gaudiano, E. (2005). The Decade of Education for Sustainable Development: Challenges and Opportunities in México. *Applied Environmental Education and Communication*, 4(3), 273-275.
- Gramsci, A. (1988). *Prison Letters* (H. Henderson, Trans.). London and Chicago: Pluto Press.

- Gray-Donald, J., & Selby, D. (2006). *Through the (not so) Green Door: Connections between University Campus Greening and Curriculum Change* Paper presented at the Building Learning - Using the Site for Teaching and Research Conference. University of York, York, November 2006.
- Grindsted, T. S. (2011). Sustainable Universities – From Declarations on Sustainability in Higher Education to National Law. *Environmental Economics*, 2(2), 29-36.
- Gubrium, J. F., & Holdstein, J. A. (2002). From the Individual Interview to the Interview Society. In J. F. Gubrium & J. A. Holstein (Eds.), *Handbook of Interview Research: Context and Method* (pp. 3-32). Thousand Oaks, London and New Delhi: Sage Publications.
- Gudz, N. A. (2004). Implementing the Sustainable Development Policy at the University of British Columbia: An Analysis of the Implications for Organisational Learning. *International Journal of Sustainability in Higher Education*, 5(2), 156-168.
- Guillemin, M., & Gillam, L. (2004). Ethics, Reflexivity, and "Ethically Important Moments" in Research. *Qualitative Inquiry*, 10(2), 261-280.
- Gummesson, E. (2000). *Qualitative Methods in Management Research* (2nd ed.). Thousand Oaks: Sage Publications.
- GUNI. (2011). *Higher Education in the World 4. Higher Education's Commitment to Sustainability: From Understanding to Action*. Barcelona: GUNI.
- Gutiérrez Pérez, J., & González Dulzades, A. (2005). Ambientalizar la Universidad: Un Reto Institucional para el Aseguramiento de la Calidad en los Ámbitos Curriculares y de la Gestión. *Revista Iberoamericana de Educación* Nº 35/6.
- Gutiérrez Pérez, J., & Pozo, M. T. (2005). Stultifera Navis: Institutional Tensions, Conceptual Chaos, and Professional Uncertainty at the Beginning of the Decade of Education for Sustainable Development. *Policy Futures in Education*, 3(3), 296-308.
- Habermas, J. (1972). *Knowledge and Human Interests* (J. J. Shapiro, Trans.). London: Heinemann.
- Habermas, J. (1984). *The Theory of Communicative Action: Reason and Rationalization of Society*. London: Heinemann Educational Books.
- Habermas, J. (1987). *The Theory of Communicative Action: The Critique of Functionalist Reason*. Cambridge: Polity Press.
- Hák, T., Moldan, B., & Dahl, A. L. (2007). *Sustainability Indicators: A Scientific Assessment, (Scientific Committee on Problems of the Environment - SCOPE)*. Washington DC: Island Press.
- Hall, S. (1996). Reflexivity in Emancipatory Action Research: Illustrating the Researcher's Constitutiveness. In O. Zuber-Skerrit (Ed.), *New Directions in Action Research* (pp. 28-48). London: RoutledgeFalmer.
- Hallbwachs, M. (1992). *On Collective memory*. Chicago: Chicago Press.
- Handley, K., Sturdy, A., Fincham, R., & Clark, T. (2006). Within and beyond Communities of Practice: Making Sense of Learning Through Participation, Identity and Practice. *Journal of Management of Studies*, 43(3), 641-653.



- Hart, P. (2007a). Exploring Relational Politics in Social Learning: Dilemmas of Standing too Close to the Fire. *Southern African Journal of Environmental Education*, 24, 46-62.
- Hart, P. (2007b). Social Learning as Action Inquiry: Exploring Education for Sustainable Societies. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 313-330). Wageningen: Wageningen Academic Publishers.
- Harvey Brown, R., & Goodman, D. (2001). Jüger Habermas' Theory of Communicative Action: An Incomplete Project. In G. Ritzer & B. Smart (Eds.), *Handbook of Social Theory* (pp. 201-216). London, Thousand Oaks and New Delhi: Sage Publications.
- Haug et al., F. (1987). *Female Sexualization. A Collective Work of Memory*. London: Verso Classics.
- Hays, S. (1994). Structure and Agency and the Sticky Problem of Culture. *Sociological Theory*, 12(1), 57-72.
- Hayward, C. R. (1998). De-facing Power. *Polity*, 31(1), 1-22.
- HEFCE. (2009). *Sustainable Development in Higher Education. 2008 Update to Strategic Statement and Action Plan*. Bristol: HEFCE. Retrieved 16 January, 2011, from [http://www.hefce.ac.uk/pubs/hefce/2009/09\\_03/09\\_03.pdf](http://www.hefce.ac.uk/pubs/hefce/2009/09_03/09_03.pdf).
- HEFCE, UUK, & GuildHE. (2010). *Carbon Reduction Target and Strategy for Higher Education in England*. Bristol: HEFCE. Retrieved 16 January, 2011, from [http://www.hefce.ac.uk/pubs/hefce/2010/10\\_01/10\\_01a.pdf](http://www.hefce.ac.uk/pubs/hefce/2010/10_01/10_01a.pdf).
- Held, D. (1980). *Introduction to Critical Theory: Horkheimer to Habermas*. Berkeley and Los Angeles: University of California Press.
- Helminck, J., & de Jong, M. (2008). *Sustainable Procurement: A Thematic Review on Sustainable Procurement in Higher Education*: DHO.
- Heron, J., & Reason, P. (1997). A Participatory Inquiry Paradigm. *Qualitative Inquiry*, 3, 274-294.
- Herremans, I., & Allwright, D. E. (2000). Environmental Management Systems at North American Universities: What Drives Good Performance? *International Journal of Sustainability in Higher Education*, 1(2), 168-181.
- Hoare, A., Cornell, S., Bertram, C., Gallagher, K., Heslop, S., Lieven, N., et al. (2008). Teaching Against the Grain: Multi-Disciplinary Teamwork Effectively Delivers a Successful Undergraduate Unit in Sustainable Development. *Environmental Education Research*, 14(4), 469-481.
- Hodge, A. R., & Hardi, P. (1997). The Need for Guidelines: The Rationale Underlying the Bellagio Principles for Assessment. In P. Hardi & T. Zdan (Eds.), *Assessing Sustainable Development: Principles in Practice* (pp. 7-21). Winnipeg: IISD.
- Holdsworth, S., Bekessy, S., Mnguni, P., Hayles, C., & Thomas, I. (2006). Beyond Leather Patches (BELP): Sustainability Education at RMIT University. In W. Leal Filho & D. Carpenter (Eds.), *Sustainability in the Australasian Tertiary Sector* (pp. 107-128). Frankfurt and Main: Peter Lang.



- Holdsworth, S., Wyborn, C., Bekessy, S., & Thomas, I. (2008). Professional Development for Education for Sustainability: How Advanced Are Australian Universities? *International Journal of Sustainability in Higher Education*, 9(2), 131-146.
- Honneth, A. (1996a). Pathologies of the Social: The Past and Present of Social Philosophy (J. Swindal, Trans.). In D. M. Rasmussen (Ed.), *A Handbook of Critical Theory* (pp. 369-396). Oxford: Blackwell.
- Honneth, A. (1996b). *The Struggle for Recognition. The Moral Grammar of Social Conflict*. Cambridge, MA: MIT Press.
- Honneth, A. (1999). The Social Dynamics of Disrespect: Situation Critical Theory Today. In P. Dews (Ed.), *Habermas: A Critical Reader* (pp. 320-337). Oxford: Blackwell.
- Hopkins, C., & McKeown, R. (2002). Education for Sustainable Development: An International Perspective. In D. Tilbury, R. B. Stevenson, J. Fien & D. Schreuder (Eds.), *Environmental Education for Sustainability: Responding to the Global Challenge* (pp. 13-24). Gland, Switzerland and Cambridge: IUCN.
- Hopkinson, P., Hughes, P., & Layer, G. (2008). Sustainable Graduates: Linking Formal, Informal and Campus Curricula to Embed Education for Sustainable Development in the Student Learning Experience. *Environmental Education Research*, 14(4), 435-454.
- Horkheimer, M., & Adorno, T. W. (1973). *Dialectic of Enlightenment*. London: Allen Lane.
- Huckle, J. (1993). Environmental Education and Sustainability: A View from Critical Theory. In J. Fien (Ed.), *Environmental Education: A Pathway to Sustainability* (pp. 43 - 68). Victoria: Deakin University.
- Huckle, J. (1996). Realizing Sustainability in Changing Times. In J. Huckle & S. Sterling (Eds.), *Education for Sustainability* (pp. 3-17). London: Earthscan Publications.
- Huckle, J. (2006). *Report on Consultative Workshops. A UK Indicator of Education for Sustainable Development*: Sustainable Development Commission. Retrieved 29 November, 2010, from [http://www.sd-commission.org.uk/data/files/publications/UK\\_Education\\_Indicator.pdf](http://www.sd-commission.org.uk/data/files/publications/UK_Education_Indicator.pdf).
- Huckle, J. (2009). Consulting the UK ESD Community on an ESD Indicator to Recommend to Government: An Insight into the Micro-Politics of ESD. *Environmental Education Research*, 15(1), 1-16.
- Huckle, J., & Sterling, S. (1996). *Education for Sustainability*. London: Earthscan.
- Hughes, I. (2000). *How to Keep a Research Diary*. Retrieved March 5, 2009, from <http://www.fhs.usyd.edu/arow/arer/005.htm>.
- IAU. (1993). *Kyoto Declaration: Proceedings of the Ninth International Association of Universities Round Table*. Paris: IAU.
- INE. (2009). *Desarrollo Sostenible 2008. Principales Indicadores de España para el Seguimiento de la Estrategia de DS de la UE*. Madrid: INE. Retrieved 1 December, 2010, from <http://www.ine.es/prodyser/pubweb/desos/desos08todo.pdf>.
- Ingleton, C. (2007). *Meaning-Making: Issues of Analysis in memory-Work*. Paper presented at the Memory Work Conference.

- ISCN-GULF. (2010). *Implementation Guidelines to the ISCN-GULF Sustainable Campus Charter. Suggested Reporting Contents and Format*. ISCN-GULF.
- Ison, R. (2005). Traditions of Understanding: Language, Dialogue and Experience. In M. Keen, V. A. Brown & R. Dyball (Eds.), *Social Learning in Environmental Management towards a Sustainable Future* (pp. 22-40). London: Earthscan.
- Ison, R. (2010). Traditions of Understanding: Language, Dialogue and Experience. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 79-88). London: Springer.
- Israel, M., & Hay, I. (2006). *Research Ethics for Social Scientists*. London: Sage Publications.
- Jackson, N. (2001). Benchmarking in UK HE: An Overview. *Quality Assurance in Education*, 9(4), 218-235.
- Jackson, N., & Lund, H. (2000). Introduction to Benchmarking. In N. Jackson & H. Lund (Eds.), *Benchmarking for Higher Education* (pp. 3-12). Buckingham and Philadelphia: Society for Research into Higher Education and Open University Press.
- Jain, S., & Pant, P. (2010). Environmental Management Systems for Educational Institutions A Case Study of TERI University, New Delhi. *International Journal of Sustainability in Higher Education*, 11(3), 236-249.
- James, P., & Hopkinson, L. (2009). *Sustainable ICT in Further and Higher Education. A Report for the Joint Information Services Committee (JISC): JISC*.
- Johnston, B. (2007). *Memory-Work: The Power of the Mundane*. Paper presented at the Memory Work Conference.
- Jones, P., Selby, D., & Sterling, S. (2010a). Endword. In P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education* (pp. 329-330). London: Earthscan.
- Jones, P., Selby, D., & Sterling, S. (2010b). *Sustainability Education: Perspectives and Practice Across Higher Education*. London: Earthscan.
- Junyent i Pubill, M. (2002). *Educació Ambiental: Un Enfocament Metodològic en Formació Inicial del Professorat d'Educació Primària*. Doctoral Thesis. Universitat de Girona, Girona.
- Junyent i Pubill, M., & Geli de Ciurana, A. M. (2008). Education for Sustainability in University Studies: a Model for Reorienting the Curriculum. *British Educational Research Journal*, 34(6), 763-782.
- Jupp, V. (2006). *The Sage Dictionary of Social Research Methods*. London, Thousand Oaks and New Delhi: Sage Publications.
- Kaplan, D. M. (2003). *Ricoeur's Critical Theory*. New York: State University of New York Press.
- Kaufman, J. S., & et al. (2006). Women and Nature: Using Memory-Work to Rethink our Relationship to the Natural World. *Environmental Education Research*, 12(3), 309-326.

- Keen, M., Brown, V. A., & Dyball, R. (2005). Social Learning: A New Approach to Environmental Management. In M. Keen, V. A. Brown & R. Dyball (Eds.), *Social Learning in Environmental Management towards a Sustainable Future* (pp. 3-21). London: Earthscan.
- Keen, M., & Mahanty, S. (2005). Collaborative Learning: Bridging Scales and Interests. In M. Keen, V. A. Brown & R. Dyball (Eds.), *Social Learning in Environmental Management towards a Sustainable Future* (pp. 104-122). London: Earthscan.
- Kemmis, S. (2001). Exploring the Relevance of Critical Theory for Action Research: Emancipatory Action Research in the Footsteps of Jürgen Habermas. In P. Reason (Ed.), *Handbook of Action Research: Participative Inquiry and Practice*. London, Thousand Oaks and New Delhi: Sage publications.
- Kezar, A., & Eckel, P. D. (2002). The Effect of Institutional Culture on Change Strategies in Higher Education. *Journal of Higher Education*, 73(4), 435-459.
- Kincheloe, J. K., & McLaren, P. (2005). Rethinking Critical Theory and Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 303-342). Thousand Oaks, London and New Delhi: Sage Publications.
- Kitamura, Y., & Hoshii, N. (2010). Education for Sustainable Development at Universities in Japan. *International Journal of Sustainability in Higher Education*, 11(3), 202-216.
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs: Prentice-Hall.
- Krasny, M. E., & Lee, S. K. (2002). Social Learning as an Approach to Environmental Education: Lessons from a Program Focusing on Non-Indigenous, Invasive Species. *Environmental Education Research*, 8(2), 101-119.
- Kvale, S. (2007). *Doing Interviews: The SAGE Qualitative Research Kit*. London, Thousand Oaks, New Delhi and Singapore: Sage Publications.
- La Trobe University. (2010). *Responsible Futures. Sustainability Report 2010*. Melbourne: La Trobe University.
- Landscapes, L. T. (2004). *Learning through Landscapes: The UK School Grounds Charity*. Retrieved January 9, 2011, from <http://www.ltl.org.uk/>
- Lather, P. A. (1993). Fertile Obsession: Validity after Poststructuralism. *Sociological Quarterly*, 34(4), 673-693.
- Lave, J. (1988). *Cognition in Practice: Mind, Mathematics, and Culture in Everyday Life*. Cambridge, UK: Cambridge University Press.
- Lave, J., & Wenger, E. (1990). *Situated Learning: Legitimate Peripheral Participation*. Cambridge, UK: Cambridge University Press.
- Leal Filho, W., & Schwarz, J. (2008). Engaging Stakeholders in a Sustainability Context: The Regional Centre of Expertise on Education for Sustainable Development in Hamburg and Region. *International Journal of Sustainability in Higher Education*, 9(4), 498-508.
- Leonardo, Z. (2004). Critical Social Theory and Transformative Knowledge: The Functions of Criticism in Quality Education. *Educational Researcher*, 33(6), 11-18.

- Lester Pearson Institute for International Development. (1990). *Creating a Common Future: Proceedings of the Conference on University Action for Sustainable Development*.
- Lincoln, A. (1858). *House Divided Speech*. Springfield, Illinois, 16 June 1858.
- Lincoln, Y. S. (1995). Emerging Criteria for Quality in Qualitative and Interpretative Research. *Qualitative Inquiry*, 1(3), 275-289.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills: Sage Publications.
- Lincoln, Y. S., & Guba, E. J. (2000). Paradigmatic Controversies, Contradictions, and Emerging Confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (2nd Edition ed., pp. 163-188). London: Sage Publication.
- Lincoln, Y. S., & Guba, E. J. (2005). Paradigmatic Controversies, Contradictions, and Emerging Confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 191-216). Thousand Oaks, London and New Delhi.
- Lindberg, C. (2006). *ESD-Indicators in the Nordic Minister Council's Strategy on Sustainable Development*. Unpublished.
- Lipscombe, B. P. (2008 ). Exploring the Role of the Extra-Curricular Sphere in Higher Education for Sustainable Development in the United Kingdom. *Environmental Education Research*, 14(4), 455-468.
- Lipscombe, B. P. (2009). *Extra-Curricular Education for Sustainable Development Interventions in Higher Education*. Doctoral Thesis. University of Liverpool, Liverpool.
- Lipscombe, B. P., Burek, C. V., Potter, J. A., Ribchester, C., & Degg, M. R. (2008). An Overview of Extra-Curricular Education for Sustainable Development (ESD) Interventions in UK Universities. *International Journal of Sustainability in Higher Education*, 9(3), 222-234.
- Loeber, A., van Mierlo, B., Grin, J., & Leeuwis, C. (2007). The Practical Value of Theory: Conceptualizing Learning in the Pursuit of a Sustainable Development. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 83-98). Wageningen: Wageningen Academic Publishers.
- López Ospina, G. (2000). Education for Sustainable Development: A Local and Global Challenge. *Prospects*, XXX(1).
- Lotz-Sisitka, H. (2002). Weaving Cloths: Research Design in Contexts of Transformation. *Canadian Journal of Environmental Education*, 7(2), 101-124.
- Lotz-Sisitka, H. (2004). Stories of Transformation. *International Journal of Sustainability in Higher Education*, 5(1), 8-10.
- Lotz-Sisitka, H. (2006). Enabling Environmental and Sustainability Education in South Africa's National Curriculum: Context, Culture and Learner Aspirations for Agency. In C. K. Lee & M. Williams (Eds.), *Environmental Education and Geographical Education for Sustainability: Cultural Contexts* (pp. 321-334). Nova Science Publishers.

- Lotz-Sisitka, H. (2011a). The 'Event' of Modern Sustainable Development and Universities in Africa. In GUNI (Ed.), *Higher Education in the World 4. Higher Education's Commitment to Sustainability: from Understanding to Action*. Barcelona: GUNI.
- Lotz-Sisitka, H. (2011b). Methodologies: Convergence and Divergence in Sustainability [Education] Research. Presentation at the PRISM Conference, Cheltenham, 19 May 2011.
- Lotz-Sisitka, H., O'Donoghue, R., & Wilmot, D. (2010). The Makana Regional Centre of Expertise: Experiments in Social Learning. *Journal of Education for Sustainable Development*, 4(1), 73-92.
- Lozano García, F. J., Huisingsh, D., & Delgado-Fabián, M. (2009). An Interconnected Approach to Incorporate Sustainable Development at Tecnológico de Monterrey *International Journal of Sustainability in Higher Education*, 10(4), 318-333.
- Lozano, R. (2006). Incorporation and Institutionalization of SD into Universities: Breaking through Barriers to Change. *Journal of Cleaner Production*, 14(9-11), 787-796.
- Lozano, R. (2007). Collaboration as a Pathway for Sustainable Development. Retrieved September 6, 2008, from [http://works.bepress.com/rodrigo\\_lozano/1](http://works.bepress.com/rodrigo_lozano/1).
- Lozano, R. (2011). The State of Sustainability Reporting in Universities. *International Journal of Sustainability in Higher Education*, 2(1), 67-78.
- Lozano, R., Lukman, R., Lozano, F. J., Huisingsh, D., & Zilahy, G. (2010). *Jumping Sustainability Meme. SD Transfer from Society to Universities*. Paper presented at the ERSP-EMSU Conference, 25-29 October 2010, Delft.
- LSC. (2005). *From Here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development*. Coventry: LSC. Retrieved 4 December, 2010, from <http://readingroom.lsc.gov.uk/lsc/2005/ourbusiness/strategy/from-here-to-sustainability-lsc-strategy-for-sustainable-development.pdf>.
- Lukes, S. (2005). *Power: A Radical View*. Basingstoke: Palgrave Macmillan.
- Lyotard, F. (1984). *The Postmodern Condition: A Report on Knowledge*. Manchester: Manchester University Press.
- Mader, C., & Zimmermann, F. M. (2008). Regional Centre of Expertise (RCE) Graz-Styria: A Process of Mobilization Facing Regional Challenges. *International Journal of Sustainability in Higher Education*, 9(4), 402-415.
- Malkina-Pykh, I. G. (2002). Integrated Assessment Models and Response Function Models: Pros and Cons for Sustainable Development Indices Design. *Ecological Indicators* 2, 93-108.
- Marshall, M. N. (1996). The Key Informant Technique. *Family Practice*, 13(1), 92 - 97.
- Martin, S., & Jucker, R. (2005). Education Earth-Literate Leaders. *Journal of Geography in Higher Education*, 22(2), 45-58.
- Maton, K. (2003). Reflexivity, Relationism and Research: Pierre Bourdieu and the Epistemic Conditions of Social Scientific Knowledge. *Space and Culture*, 6(1), 52 - 65.
- Maxwell, J. A. (1998). Designing a Qualitative Research. In L. Bickman & D. J. Rog (Eds.), *Handbook of Applied Social Methods*. Newbury Park: Sage Publications.

- McCool, S. F., & Stankey, G. H. (2004). Indicators of Sustainability: Challenges and Opportunities at the Interface of Science and Policy *Environmental Management*, 33(3), 294-305.
- McKeown, R. (2002a). *Education for Sustainable Development Kit*: [www.esd-toolkit.org/](http://www.esd-toolkit.org/).
- McKeown, R. (2002b). Progress Has Been Made in Education for Sustainable Development. *Applied Environmental Education & Communication* 1(1), 21-23.
- McKeown, R., & Hopkins, C. (2003). EE ≠ ESD: Defusing the Worry. *Environmental Education Research*, 9(1), 117-128.
- McMillin, J., & Dyball, R. (2009). Developing a Whole-of-University Approach to Educating for Sustainability: Linking Curriculum, Research and Sustainable Campus Operations. *Journal of Education for Sustainable Development*, 3(1), 55-64.
- Meadows, D. H. (1998). *Indicators and Information Systems for Sustainable Development*. Hartland Four Corners: Sustainability Institute.
- Medir i Huerta, R. M. (2007). *Formació d'Educadors en Ciutats Històriques en el Marc de l'Educació per a la Sostenibilitat. Estudi de Cas del Programa d'Educació Ambiental i Coneixement de la Ciutat de Girona* Doctoral Thesis. Universitat de Girona, Girona.
- Megg, L. V. (2008). Introduction. In C. Haddad (Ed.), *Reinventing Higher Education: Toward Participatory and Sustainable Development* (pp. 1-15). Bangkok: UNESCO Bangkok.
- Mezirow, J. (2000). Learning to Think like an Adult: Core Concepts of Transformation Theory. In J. Mezirow & Associates (Eds.), *Learning as Transformation: Critical Perspectives on a Theory in Progress* (pp. 3-34). San Francisco: Jossey-Bass.
- Mezirow, J., & Associates. (2000). *Learning as Transformation: Critical Perspective on a Theory in Progress*. New York: Jossey Bass.
- Ministry of the Environment. (2007). *Towards Sustainable Choices - A Nationally and Globally Sustainable Finland. The Assessment of the National Indicators Network of the Progress towards Sustainable Development in 2007*. Helsinki: Retrieved November 13, 2010, from <http://www.ymparisto.fi/download.asp?contentid=92350&lan=en>.
- Mochizuki, Y. (2007). Partnerships between Environmentalists and Farmers for Sustainable Development: A Case of Kabukuru-numa and the Adjacent Rice Fields in the Town of Tajiri in Northern Japan. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 385-404). Wageningen: Wageningen Academic Publishers.
- Mochizuki, Y. (2008). Convergence and Divergence between EIU and ESD: Towards a Culture of Peace and a Sustainable Future. In APCEIU & UNU-IAS (Eds.), *Teacher Training for Learning to Live Together: A Training Manual for EIU and ESD* (pp. 49-58). Seoul: APCEIU and UNU-IAS. Retrieved May 11, 2011, from [http://www.ias.unu.edu/resource\\_centre/unu%20ias%20and%20apceiu%20teachers%20training%20manual%20on%20eiu%20and%20esd.pdf#page=50](http://www.ias.unu.edu/resource_centre/unu%20ias%20and%20apceiu%20teachers%20training%20manual%20on%20eiu%20and%20esd.pdf#page=50).

- Mochizuki, Y., & Fadeeva, Z. (2008). Regional Centres of Expertise on Education for Sustainable Development (RCEs): An Overview. *International Journal of Sustainability in Higher Education*, 9(4), 369-381.
- Moldan, B., & Dahl, A. L. (2007). Challenges of Sustainability Indicators. In T. Hák, B. Moldan & A. L. Dahl (Eds.), *Sustainability Indicators: A Scientific Assessment, (Scientific Committee on Problems of the Environment - SCOPE)* (pp. 1-26). Washington DC: Island Press.
- Moody, L. G., & Hartel, P. G. (2007). Evaluating an Environmental Literacy Requirement Chosen as a Method to Produce Environmentally Literate University Students. *International Journal of Sustainability in Higher Education*, 8(3), 355-370.
- Moon, J., A. (2004). *A Handbook of Reflective and Experiential Learning: Theory and Practice*  
New York: RoutledgeFalmer.
- Mulà, I. (2008). *The United Nations Decade of Education for Sustainable Development Monitoring and Evaluation (2005-2014). The North America and Europe Synthesis Document: Context and Structure of Work on ESD in the North America and Europe Region*. Unpublished.
- Mulà, I., & Junyent i Pubill, M. (2008). La Ambientalización Curricular en Educación Primaria: Criterios e Indicadores para evaluarla. In J. Gutiérrez Pérez & L. Cano Muñoz (Eds.), *Investigaciones en la Década de la Educación para el Desarrollo Sostenible* (pp. 31-50). Valsaín: Organismo Autónoma de Parques Nacionales. Ministerio de Medio Ambiente y Medio Rural y Marino.
- Mulà, I., & Tilbury, D. (2009). A United Nations Decade of Education for Sustainable Development (2005-14): What Difference Will it Make? *Journal of Education for Sustainable Development*, 3(1), 87-98.
- Mulà, I., & Tilbury, D. (2011). *National Journeys towards Education for Sustainable Development*. Paris: UNESCO.
- National Committee for the UN DESD. (2004). *National Plan of Action for Germany. United Nations Decade of Education for Sustainable Development 2005-2014*. Bonn: Federal Ministry of Education and Research, UNESCO German National Commission.
- NEMA. (2008). *Education for Sustainable Development Strategy*. Nairobi: NEMA.
- Nicolaidis, A. (2006). The Implementation of Environmental Management Towards Sustainable Universities and Education for Sustainable Development as an Ethical Imperative. *International Journal of Sustainability in Higher Education*, 7(4), 414-424.
- Noeke, J. (2000). Environmental Management Systems for Universities: A Case Study. *International Journal of Sustainability in Higher Education*, 1(3), 237-251.
- Nordic Council of Ministers. (2005). *Sustainable Development - New Bearings for the Nordic Countries*. Copenhaguen: Nordic Council of Ministers.
- Nordic Council of Ministers. (2009). *Sustainable Development - New Bearings for the Nordic Countries. Revised edition with goals and priorities 2009-2012*. Copenhaguen: Nordic Council of Ministers.



- O'Brien, M. (1999). Theorising Modernity: Reflexivity, Identity and Environment in Giddens' Social Theory. In M. O'Brien, S. Penna & C. Hay (Eds.), *Theorising Modernity: Reflexivity, Environment and Identity in Giddens' Social Theory*. New York: Addison Wesley Longman Inc.
- O'Sullivan, E. (2002). The Project and Vision of Transformative Learning In E. O'Sullivan, A. Morrell & A. O'Connor (Eds.), *Expanding the Boundaries of Transformative Learning* (pp. 1-12). New York: Palgrave Macmillan.
- Orr, D. (1991). What is Education for? Six Myths about the Foundations of Modern Education, and Six new Principles to Replace them. *The Learning Revolution (IC#27)*, 52-58.
- Palmer, I., & Hardy, C. (2000). *Thinking about Management: Implication of Organisational Debates and for Practice*. London: Sage Publications.
- Park, P. (2001). Knowledge and Participatory Research. In H. Bradbury & P. Reason (Eds.), *Handbook of Action Research: Participative Inquiry and Practice* (pp. 81-90). London, Thousands Oaks and New Delhi: Sage Publications.
- Parson, E. A., & Clark, W. C. (1995). Sustainable Development as Social Learning: Theoretical Perspectives and Practical Challenges for the Design of a Research Program. In L. H. Gunderson, C. S. Holling & S. S. Light (Eds.), *Barriers and Bridges to the Renewal of Ecosystems and Institutions* (pp. 255-307). New York: Columbia University Press.
- PCE. (2004). *See Change. Learning and Education for Sustainability*. Wellington: PCE.
- People&Planet. (2011). *People&Planet Green League Methodology: Driving UK Universities' Transitions to a Fair and Sustainable Future*: Retrieved August 18, 2011, from <http://peopleandplanet.org/greenleague/methodology-2011>.
- Peterson, N. (1982). *Developmental variables affecting environmental sensitivity in professional environmental educators*. Unpublished unpublished master's thesis, Southern Illinois University, Carbondale.
- Pigozzi, M. J. (2010). Implementing the UN Decade of Education for Sustainable Development (DESD): Achievements, Open Questions and Strategies for the Way Forward. *International Review of Education*, 56, 255-269.
- Piñeiro García León, C. (2011). *Comunicación Ambiental para la Transformación Social. Iniciativas de Consumo Responsable en Madrid*. Doctoral Thesis. Universidad Autónoma de Madrid, Madrid.
- Pintér, L., Hardi, P., & Bartelmus, P. (2005). *Sustainable Development Indicators: Proposals for a Way Forward*. IISD.
- Plant, M. (2001). *Developing and Evaluating a Socially Critical Approach to Environmental Education at Philosophical and Methodological Levels in Higher Education*. Doctoral thesis. Nottingham Trent University, Nottingham.
- Plant, M. (2004). Sustainability in Higher Education through Distance Learning: The Master Arts in Environmental Education at Nottingham Trent University. In P. Blaze Corcoran & A. E. J. Wals (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice* (pp. 277-292). Dordrecht, Boston and London: Kluwer Academic Publishers.



- Podger, D. (2009). *Contribution of a Faith Organisation to Education for Sustainability: Infusing Spirituality into Learning for Sustainability*. Doctoral Thesis. Macquarie University, Sydney.
- Podger, D., Piggot, G., Zahradnik, M., Janoušková, S. J., Velasco, I., Hak, T., et al. (2010). The Earth Charter and the ESDinds Initiative: Developing Indicators and Assessment Tools for Civil Society Organisations to Examine the Values Dimensions of Sustainability Projects. *Journal of Education for Sustainable Development*, 4(September), 297-305.
- Porrit, J. (2005). *Capitalism as if the World Matters*. London: Earthscan.
- QAA. (2011). *Institutional Review of Higher Education Institutions in England and Northern Ireland. Operational Description*. Gloucester: QAA.
- Rasmussen, D. M. (1999). Critical Theory and Philosophy. In D. M. Rasmussen (Ed.), *The Handbook of Critical Theory*. Oxford and Malden: Blackwell Publishers Inc.
- Rauch, J. N., & Newman, J. (2009). Defining Sustainability Metric Targets in an Institutional Setting. *International Journal of Sustainability in Higher Education*, 10(2), 107-117.
- Reed Johnson, J. A. (2009). *Education for Sustainable Development: A Comparison between two Eco-schools, one in England and the other in South Africa*. Doctoral thesis. Manchester Metropolitan University, Manchester.
- Reed, M. S., Evely, A. C., Cundill, G., Fazey, I., Glass, J., Laing, A., et al. (2010). What is Social Learning? *Ecology and Society*, <http://www.ecologyandsociety.org/volXX/issYY/artZZ/>
- Reid, A., Nikel, A., & Scott, W. (2006). *Indicators for Education for Sustainable Development: A Report on Perspectives, Challenges and Progress*. London: Anglo-German Foundation for the Study of Industrial Society.
- Richards, L., & Morse, J. M. (2007). *Read Me First for a User's Guide to Qualitative Methods* (2nd Edition ed.). Thousand Oaks, London and New Delhi: Sage Publications.
- Richardson, L., & Adams St. Pierre, E. (2005). Writing: A Method of Inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd edition ed.). Thousand Oaks, London and New Delhu: Sage Publications.
- Richardson, S., & Ali Khan, S. (1995). *The Environmental Agenda: Promoting Sustainable Practice through Higher Education Curricula*. London: Pluto Press, Council for Environmental Education/WWF-UK.
- Rickers, J. (2008). Regional Centre of Expertise (RCE) Rhine-Meuse: A Cross-Border Network. *International Journal of Sustainability in Higher Education*, 9(4), 441-450.
- Ricoeur, P. (1986). Manheim. In G. H. Taylor (Ed.), *Lectures on Ideology and Utopia* (pp. 159-180). New York: Columbia University Press.
- Ricoeur, P. (1989). *Paul Ricoeur: The Conflict of Interpretations*. London: Athlone.
- Ricoeur, P. (2004). *Memory, History, Forgetting*. Chicago: Chicago University Press.

- Robbottom, I., & Hart, P. (1993). *Research in Environmental Education: Engaging the Debate*. Victoria: Deakin University.
- Roberts, C., & Roberts, J. (2007). *Greener by Degrees: Exploring Sustainability through Higher Education Curriculum*. Cheltenham: University of Gloucestershire.
- Roberts, J. (2006). Limits to Communities of Practice. *Journal of Management Studies*, 43(3), 623-639.
- Rode, H., & Michelsen, G. (2008). Levels of Indicator Development for Education for Sustainable Development. *Environmental Education Research*, 14(1), 19-33.
- Room, G. J. (2005). Policy Benchmarking in the European Union: Indicators and Ambiguities. *Policy Studies*, 26(2), 117-132.
- Roorda, N. (2001). *Auditing Instrument for Sustainability in Higher Education* Retrieved October 5, 2008, from [www.eauc.org.uk/file\\_uploads/aishe-book1\\_5.pdf](http://www.eauc.org.uk/file_uploads/aishe-book1_5.pdf)
- Roorda, N. (2007). *AISHE 2.0 Manual*. Retrieved September 26, 2008, from [www.hu2.se/2010v/AISHE 2.0 Manual - 2nd draftswa.pdf](http://www.hu2.se/2010v/AISHE_2.0_Manual_-_2nd_draftswa.pdf).
- Ross, R. F. (1990). Indicators for Monitoring Biodiversity: A Hierarchical Approach. *Conservation Biology*, 4(4), 355-364.
- Ryan, A. (2011). *Education for Sustainable Development and Holistic Curriculum Change: Guide for Higher Education Institutions*. Higher Education Academy.
- Ryan, A., Tilbury, D., Blaze Corcoran, P., Abe, O., & Nomura, K. (2010). Sustainability in Higher Education in the Asia-Pacific: Developments, Challenges and Prospects. *International Journal of Sustainability in Higher Education*, 11(3), 106-119.
- Sampson, H. (2004). Navigating the Waves: The Usefulness of a Pilot in Qualitative Research. *Qualitative Research*, 4(3), 383-402.
- Sanusi, Z. A., & Khelgat-Doost, H. (2008). Regional Centre of Expertise as a Transformational Platform for Sustainability: A Case Study of Universiti Sains Malaysia, Penang. *International Journal of Sustainability in Higher Education*, 9(4), 487-497.
- Sayer, A. (1992). *Method in Social Science: A Realist Approach*. London and New York: Routledge.
- Schein, E. H. (2004). *Organizational Culture and Leadership* (3rd. ed.). San Francisco: Jossey-Bass.
- Scherer, A. G. (2009). Critical Theory and its Contribution to the Emergence of Critical Management Studies. In M. Alvesson, H. Willmott & T. Bridgman (Eds.), *Oxford Handbook of Critical Management Studies*. Oxford: Oxford University Press.
- Schofield, A. (1998). An Introduction to Benchmarking in Higher Education In UNESCO (Ed.), *Benchmarking in Higher Education: A Study Conducted by the Commonwealth Higher Education Management Service* (pp. 6-11). Paris: UNESCO.
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.
- Schön, D. A. (2010). Government as a Learning System. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 5-16). London: Springer.

- Schratz, M. (1996). Collaborative, self-critical and reciprocal inquiry through Memory Work. In O. Zuber-Skerrit (Ed.), *New Directions in Action Research*. London: Falmer Press.
- Schratz, M., & Walker, R. (1995). *Research as social change. New opportunities for qualitative research*. London: Routledge.
- Schumacher, E. F. (1973). *Small is Beautiful*. London: Blond and Briggs.
- Scott-Baumann, A. (2007). Collaborative Partnerships as Sustainable Pedagogy: Working with British Muslims. In C. Roberts & J. Roberts (Eds.), *Greener by Degrees: Exploring Sustainability through Higher Education Curricula* (pp. 306-315). Cheltenham: University of Gloucestershire.
- Scott-Baumann, A. (2009). *Ricoeur and the Hermeneutics of Suspicion*. London: Continuum.
- Scott, G., Coates, H., & Anderson, M. (2008). *Learning Leaders in Times of Change: Academic Leadership Capabilities for Australian Higher Education*. Sydney: University of Western Sydney and Australian Council for Educational Research.
- Seale, C. (1999). Quality in Qualitative Research. *Qualitative Inquiry*, 5(4), 465-478.
- Selby, D. (2007a). *ISO 14001 at the University of Plymouth*. Retrieved January 15, 2007, from [csf.plymouth.ac.uk/files/ISO14001discussion.doc](http://csf.plymouth.ac.uk/files/ISO14001discussion.doc).
- Selby, D. (2007b). Reaching into the Holomovement: A Bohmian Perspective on Social Learning for Sustainability. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 165-180). Wageningen: Wageningen Academic Publishers.
- Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senternovem. (2008). *Learning for Sustainable Development: From Strategy to (General) Practice (2008-2011)*. Utrecht: Senternovem.
- Shaheen, F. (2011). *Degrees of value: How Universities Benefit Society*. London: New Economics Foundation.
- Shallcross, A. G. (2006). Change, Action and School Focused Professional Development. In A. G. Shallcross, J. Robinson, P. Pace & A. E. J. Wals (Eds.), *Creating Sustainable Environments in our Schools* (pp. 61-84). Stoke-on-Trent: Trentham Books.
- Shallcross, A. G., & Wals, A. E. J. (2006). Mind the Es, Ds and Ss: Clarifying some Terms. In A. G. Shallcross, J. Robinson, P. Pace & A. E. J. Wals (Eds.), *Creating Sustainable Environments in our Schools* (pp. 3-10). Stoke-on-Trent: Trentham Books.
- Sharp, L. (2002). Green Campuses: The Road from Little Victories to Systemic Transformations. *International Journal of Sustainability in Higher Education*, 3(2), 128-145.
- Sherren, K. (2008). The Entropy of Sustainability: Observed Tensions in Canadian Tertiary Innovations. *Canadian Journal of Higher Education*, 38(2), 1-23.
- Shriberg, M. P. (2002). *Sustainability in U.S. Higher Education: Organizational Factors Influencing Campus Environmental Performance and Leadership*. Doctoral Thesis. The University of Michigan, Ann Arbor.

- Shriberg, M. P. (2004). Assessing Sustainability: Criteria, Tools, and Implications. In P. Blaze Corcoran & A. E. J. Wals (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice* (pp. 71-86). Dordrecht, Boston and London: Kluwer Academic Publishers.
- Shumba, O. (2008). *A Global Monitoring and Evaluation Framework's Relevance to Southern Africa's ESD Communities of Practice and Research Networks*. Unpublished.
- Siemer, S., Elmer, S., & Rammel, C. (2006). *Indicators of an Education for Sustainable Development*: Bundesministerium für Unterricht, Kunst und Kultur. Retrieved October 30, 2010, from [http://www.bmukk.gv.at/medienpool/18317/bine\\_indicators.pdf](http://www.bmukk.gv.at/medienpool/18317/bine_indicators.pdf).
- Sleurs, W. (2008). *Competencies for ESD (Education for Sustainable Development) Teachers: A Framework to Integrate ESD in the Curriculum of Teacher Training Institutes*. Retrieved January 21, 2010, from [www.csct-project.org](http://www.csct-project.org).
- Small, J. (2004). Memory-Work. In J. Phillimore & L. Goodson (Eds.), *Qualitative Research in Tourism: Ontologies, Epistemologies and Methodologies* (pp. 255-272). New York: Routledge.
- Small, J. (2007). *Memory-Work: An Introduction*. Paper presented at the Memory Work Conference, 6 August 2007, Sydney.
- Smith, J. A. (1996). Evolving Issues for Qualitative Psychology. In J. T. E. Richardson (Ed.), *Handbook of Qualitative Research Methods for Psychology and Social Sciences*. Leicester: BPS Books.
- Sollart, K. (2005). *Framework on Indicators for Education for Sustainable Development: Some Conceptual Thoughts*. Netherlands Environmental Assessment Agency (MNP).
- Spangenberg, J. H. (2002). Institutional Sustainability Indicators: An Analysis of the Institutions in Agenda 21 and a Draft Set of Indicators for Monitoring their Effectivity. *Sustainable Development*, 10, 103-115.
- Sparkes, R. (2002). Ethical Investment: Whose Ethics, Which Investment? *Business Ethics: A European Review*, 10(3), 194-205.
- Stake, R. E. (1995). *The Art of Case Study Research*. Thousand Oaks, London and New Delhi: Sage Publications.
- Statistics New Zealand. (200). *Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008*. Wellington: Statistics New Zealand.
- Stephens, J. C., Hernandez, M. E., Román, M., Graham, A. C., & Scholz, R. W. (2008). Higher Education as as Change Agent for Sustainability in different Cultures and Contexts. *International Journal of Sustainability in Higher Education*, 9(3), 317-338.
- Stephenson, N. (2007). *If Parties Are Battles, What Are We? Practising Collectivity in Memory Work*. Paper presented at the Memory Work Conference, 6 August 2007, Sydney.
- Sterling, S. (2001). *Sustainable Education: Re-visioning Learning and Change*. Totnes: Green Books.

- Sterling, S. (2004). Higher Education, Sustainability, and the Role of Systemic Learning. In P. Blaze Corcoran & A. E. J. Wals (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise and Practice* (pp. 47-70). Dordrecht, Boston and London Kluwer Academic Publishers.
- Sterling, S. (2007). Riding the Storm: Towards a Connective Cultural Consciousness. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 63-82). Wageningen: Wageningen Academic Publishers.
- Sterling, S. (2010). What is Learning for Sustainable Development? In UNESCO (Ed.), *Tomorrow Today* (pp. 33-34). Paris: UNESCO.
- Sterling, S. (2011a). *Sustainability Education Invites Learners to Anticipate and Shape the Future: Terril Shorb Interviews Stephen Sterling*. Retrieved August 31, 2011, from [http://www.journalofsustainabilityeducation.org/wordpress/content/sustainability-education-invites-learners-to-anticipate-and-shape-the-future-terril-shorb-interviews-stephen-sterling\\_2011\\_03/](http://www.journalofsustainabilityeducation.org/wordpress/content/sustainability-education-invites-learners-to-anticipate-and-shape-the-future-terril-shorb-interviews-stephen-sterling_2011_03/).
- Sterling, S. (2011b). Transformative Learning and Sustainability: Sketching the Conceptual Ground. *Learning and Teaching in Higher Education*, 5(2010-2011), 17-33.
- Sterling, S., & Gray-Donald, J. (2007). Editorial. *International Journal of Innovation and Sustainable Development*, 2(3/4), 241-248.
- Sterling, S., & Scott, W. (2009). Higher Education and ESD in England: a Critical Commentary on Recent Initiatives. *Environmental Education Research*, 14(4), 386-398.
- Strauss, A. L., & Corbin, J. (1990). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, London and New Delhi: Sage Publications.
- Swiss Confederation. (2011). *Sustainable Development – A Brief Guide 2010. 16 Key Indicators to Measure Progress*. Neuchâtel: Swiss Confederation. Retrieved August 28, 2011, from <http://www.bfs.admin.ch/bfs/portal/en/index/themen/21/22/publ.html?publicationID=4272>.
- Tandon, R. (2008). In Search of Relevance: Higher Education for Participatory Research and Sustainable Development. In C. Haddad (Ed.), *Reinventing Higher Education: Toward Participatory and Sustainable Development* (pp. 42-50). Bangkok: UNESCO Bangkok.
- Tanner, T. (1980). Significant Life Experiences: An New Research Area in Environmental Education. *Environmental Education Research*, 11(4), 20-24.
- The Scottish Government. (2010a). *Learning for Change: Scotland's Action Plan for the Second Half of the UN Decade of Education for Sustainable Development*. Edinburgh: The Scottish Government. Retrieved January 9, 2011, from <http://www.scotland.gov.uk/Resource/Doc/312576/0098842.pdf>.
- The Scottish Government. (2010b). *Universities and Colleges Climate Commitment for Scotland*. Retrieved January 12, 2011, from [http://www.eauc.org.uk/scotlands\\_principals\\_climate\\_commitment](http://www.eauc.org.uk/scotlands_principals_climate_commitment).

- Thomas, G. (2009). *How to Do your Research Project: A Guide for Students in Education and Applied Social Sciences*. London, Thousand Oaks, New Delhi and Singapore: Sage Publications.
- Thomas, I. (2004). Tertiary or Terminal: A Snapshot of Sustainability Education in Australia's Universities. *International Journal of Sustainability in Higher Education*, 5(1), 33-47.
- Thomson, R., & Green, W. (2005). When Sustainability Is not a Priority: An Analysis of Trends and Strategies. *International Journal of Sustainability in Higher Education*, 6(1), 7-17.
- Tierney, W. G. (1998). Organizational Culture in Higher Education: Defining the Essentials. *Journal of Higher Education*, 59(2-21).
- Tierney, W. G., & Dilley, P. (2002). Interviewing in Education. In J. F. Gubrium & J. A. Holdstein (Eds.), *Handbook of Interview Research: Context and Method* (pp. 453-471). Thousand Oaks, London and New Delhi: Sage Publications.
- Tilbury, D. (1993). Environmental Education for Sustainability: Defining the New Focus of Environmental Education in the 1990s. *Environmental Education Research* 1(2), 195 - 212
- Tilbury, D. (2007a). Learning Based Change for Sustainability: Perspectives and Pathways. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 117-132). Wageningen: Wageningen Academic Publishers.
- Tilbury, D. (2007b). Monitoring and Evaluation during the UN Decade of Education for Sustainable Development. *Journal of Education for Sustainable Development*, 1(2), 239-254.
- Tilbury, D. (2011a). Are We Learning to Change? Mapping Global Progress in Education for Sustainable Development in the Lead Up to 'Rio Plus 20. *Global Environmental Research*, 14(2), 101-107.
- Tilbury, D. (2011b). *Education for Sustainable Development: An Expert Review of Processes and Learning*. Paris: UNESCO.
- Tilbury, D. (2011c). Higher Education for Sustainability: A Global Overview of Commitment and Progress. In GUNI (Ed.), *Higher Education in the World 4. Higher Education's Commitment to Sustainability: From Understanding to Action*. Barcelona: GUNI.
- Tilbury, D., & Cooke, K. (2005). *A National Review of Environmental Education and its Contribution to Sustainability in Australia: Frameworks for Sustainability*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability.
- Tilbury, D., & et al. (2007). *Asia-Pacific Guidelines for the Development of National ESD Indicators*. Bangkok: UNESCO Bangkok.
- Tilbury, D., & Janousek, S. (2006). *Development of a National Approach to Monitoring, Assessment and Reporting on the Decade of Education for Sustainable Development: Summarising Documented Experiences on the Development of ESD Indicators and Networking with Expert Groups on ESD Indicators*. Sydney:

Australian Research Institute of Education for Sustainability and Australian Government Department of the Environment and Water Resources.

- Tilbury, D., & Janousek, S. (2007). Asia-Pacific Contributions to the UN Decade of Education for Sustainable Development. *Journal of Education for Sustainable Development*, 1(1), 133-141.
- Tilbury, D., Keogh, A., Leighton, A., & Kent, J. (2005). *A National Review of Environmental Education and its Contribution to Sustainability in Australia: Further and Higher Education*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability.
- Tilbury, D., & Mulà, I. (2009). *Review of Education for Sustainable Development (ESD) Policies from a Cultural Diversity and Intercultural Dialogue Perspective: Gaps and Opportunities for Future Action*. Paris: UNESCO.
- Tilbury, D., Podger, D., & Reid, A. (2004). *Action Research towards Change in Curricula: Change in Curricula and Graduate Skills towards Sustainability - Final Report*. Sydney: Australian Government Department of Environment and Heritage and Macquarie University.
- Tilbury, D., & Ryan, A. (in print). Embedding Sustainability in the DNA of Universities. *Revista Arbour. Special Issue: Universidad 2015: Retos hacia la Sostenibilidad*.
- Tilbury, D., & Wortman, D. (2004). *Engaging People in Sustainability*. Gland, Switzerland and Cambridge, UK: Commission on Education and Communication, IUCN.
- Tilbury, D., & Wortman, D. (2008). Education for Sustainability in Further and Higher Education: Reflections along the Journey. *Planning for Higher Education*, July-September 2008, 5-16.
- Togo, M. (2009). *A Systems Approach to Mainstreaming Environment and Sustainability in Universities: The Case of Rhodes University, South Africa*. Doctoral thesis. University of Rhodes, Grahamstown.
- Tydball, K. G., & Krasny, M. E. (2007). From Risk to Resilience: What Role for Community Greening and Civic Ecology in Cities? In A. E. J. Wals (Ed.), *Social Learning for a Sustainable World: Principles, Perspectives, and Praxis* (pp. 149-164). Wageningen: Wageningen Academic Publishers.
- UK Government. (2005). *Securing the Future - Delivering UK Sustainable Development Strategy*. Retrieved March 26, 2009, from <http://www.defra.gov.uk/publications/files/pb10589-securing-the-future-050307.pdf>.
- UK Government. (2008). *UK Climate Change Act*. Retrieved March 28, 2009, from <http://www.legislation.gov.uk/ukpga/2008/27/contents>.
- UK National Commission for UNESCO. (2010). *Education for Sustainable Development in the UK in 2010*. London: UK National Commission for UNESCO.
- ULSF. (1990). *Talloires Declaration*. Retrieved October 28, 2010, from [http://www.ulsf.org/programs\\_talloires.html](http://www.ulsf.org/programs_talloires.html).
- UN. (1992). *The Rio Declaration on Environment and Development*. Geneva: Centre for Our Common Future.



- UN. (1996). *Indicators of Sustainable Development: Guidelines and Methodologies* (1st ed.). New York: UN.
- UN. (2001). *Indicators of Sustainable Development: Framework and Methodologies* (2nd ed.). New York: UN.
- UN. (2002a). *Johannesburg Summit 2002*. Retrieved November 25, 2008, from [http://www.un.org/jsummit/html/basic\\_info/basicinfo.html](http://www.un.org/jsummit/html/basic_info/basicinfo.html).
- UN. (2002b). *Press Conference on 'Ubuntu Declaration' on Education*. Retrieved November 30, 2008, from <http://www.un.org/events/wssd/pressconf/020901conf1.htm>.
- UN. (2007). *Indicators of Sustainable Development: Guidelines and Methodologies* (3rd ed.). New York: UN.
- UN. (2008). *Official List of MDG Indicators*: Retrieved 6 April, 2009, from <http://mdgs.un.org/unsd/mdg/Resources/Attach/Indicators/OfficialList2008.pdf>.
- UN Economic and Social Council. Commission on Sustainable Development. (1996). *Report of the Secretary-General*. para.19. New York: UN.
- UNECE. (2005a). *UNECE Strategy for Education for Sustainable Development* UNECE. Retrieved June 19, 2008, from <http://live.unece.org/?id=24444>.
- UNECE. (2005b). *UNECE Strategy for Education for Sustainable Development: Guidance for Reporting*. Geneva: UNECE.
- UNECE. (2006). *Comments on the Indicators for ESD*. UNECE Steering Committee on Education for Sustainable Development, Third Meeting, 11-13 March 2006, Vienna.
- UNECE. (2009). *Learning from Each Other: The UNECE Strategy for Education for Sustainable Development*. New York and Geneva: UNECE.
- UNECE. (2011). *Learning for the Future: Competences in Education for Sustainable Development*. Geneva: UNECE.
- UNEP. (1972). *Stockholm Declaration*. Retrieved November 28, 2010, from <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503>.
- UNESCO. (1993). *Swansea Declaration*. Gland: UNESCO.
- UNESCO. (2002). *Education for Sustainability. From Rio to Johannesburg: Lessons Learnt from a Decade of Commitment*. World Summit on Sustainable Development, Johannesburg, 26 August-4 September 2002. Paris: UNESCO.
- UNESCO. (2005). *United Nations Decade of Education for Sustainable Development (2005-2014): International Implementation Scheme*. Paris: UNESCO.
- UNESCO. (2007a). *Good Practices on Education for Sustainable Development in the UNECE Region*. Paris: UNESCO.
- UNESCO. (2007b). *The UN Decade of Education for Sustainable Development (DESD 2005-2014): The First Two Years*. Paris: UNESCO.



- UNESCO. (2008a). *Declaration of the Regional Conference on Higher Education in Latin America and the Caribbean - CRES 2008*. Retrieved January 29, 2011, from [http://www.iesalc.unesco.org.ve/docs/wrt/declarationcres\\_ingles.pdf](http://www.iesalc.unesco.org.ve/docs/wrt/declarationcres_ingles.pdf).
- UNESCO. (2008b). *UN DESD Global Monitoring and Evaluation Framework (GEMF). Operational Plan*. Paris: UNESCO.
- UNESCO. (2009a). *2009 World Conference on Higher Education: The New Dynamics of Higher Education and Research for Societal Change and Development*. Paris: UNESCO. Retrieved 10 January, 2010, from [http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/WCHE\\_2009/FINAL%20COMMUNIQUE%20WCHE%202009.pdf](http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/WCHE_2009/FINAL%20COMMUNIQUE%20WCHE%202009.pdf).
- UNESCO. (2009b). *UNESCO World Conference on Education for Sustainable Development: Bonn Declaration*. Retrieved February 2, 2010, from [http://www.esd-world-conference-2009.org/fileadmin/download/ESD2009\\_BonnDeclaration080409.pdf](http://www.esd-world-conference-2009.org/fileadmin/download/ESD2009_BonnDeclaration080409.pdf).
- UNESCO. (2010a). *Education for Sustainable Development Lens: A Policy and Practice Review Tool* Paris: UNESCO.
- UNESCO. (2010b). *UN DESD Global Monitoring and Evaluation Framework (GMEF). Phase II*. Paris: UNESCO.
- UNESCO. (2010c). *UNESCO Strategy for the Second Half of the United Nations Decade of Education for Sustainable Development*. Paris: UNESCO.
- UNESCO Bangkok. (2008). *Sharing Progress towards National DESD Monitoring Systems in the Asia-Pacific: Country Updates. Progress Reports 1 - 4*. Bangkok: UNESCO Bangkok. Retrieved October 29, 2010, from [http://www.unescobkk.org/fileadmin/user\\_upload/esd/documents/indicators/Country\\_Update\\_1-4\\_final.pdf](http://www.unescobkk.org/fileadmin/user_upload/esd/documents/indicators/Country_Update_1-4_final.pdf).
- University of Bradford. (2007). *Ecoversity Briefing Note No. 1a*. Bradford: University of Bradford. retrieved March 27, 2010, from <http://www.brad.ac.uk/ecoversity/resources/Briefing%20note%201-%20What%20is%20ecoversity.pdf>.
- University of Bradford. (2008). *Bradford Sustainable Schools Network. Newsletter No.1*. Bradford: University of Bradford.
- University of Bradford. (2011). *Undergraduate Prospectus*. Bradford: University of Bradford.
- University of Brighton. (2009). *Excerpt from Values-based Indicators for Sustainable Development: Draft Handbook for Civil Society Organisations on Indicators*. Brighton: University of Brighton. Retrieved January 14, 2011, from <http://www.esdinds.eu/>.
- University of Gloucestershire. (2008). *Research Ethics: A Handbook of Principles and Procedures*. Cheltenham: University of Gloucestershire.
- Utc. (2010). *Universities that Count Annual Report 2009/10. Transforming Environmental and Social Performance in Universities: UtC*.

- UUK. (2008). *Greening Spires / Universities and the Green Agenda*. Retrieved January 28, 2011, from [http://www.universitiesuk.ac.uk/Publications/Documents/green\\_spires.pdf](http://www.universitiesuk.ac.uk/Publications/Documents/green_spires.pdf).
- UUK. (2009). *A University Leaders' Statement of Intent on Sustainable Development*. UUK.
- van Dam-Mieras, R., Lansu, A., Rieckmann, M., & Michelsen, G. (2008). Development of an Interdisciplinary, Intercultural Master's Program on Sustainability: Learning from the Richness of Diversity. *Innovation Higher Education, 32*, 251-264.
- van der Waal, M. (2011). The Netherlands. In I. Mulà & D. Tilbury (Eds.), *National Journeys towards Education for Sustainable Development* (pp. 77-103). Paris: UNESCO.
- van Oelreich, K. (2004). Environmental Certification at Mälardalen University. *International Journal of Sustainability in Higher Education, 5*(2), 133-146.
- van Raaij, R. (2007). Indicators for Education for Sustainable Development. *BNE-Journal, May 2007*. Retrieved July 9, 2011, from [http://www.bne-portal.de/coremedia/generator/pm/en/Issue\\_001/Downloads/01\\_Contributions/Raaij.pdf](http://www.bne-portal.de/coremedia/generator/pm/en/Issue_001/Downloads/01_Contributions/Raaij.pdf).
- van Weenen, H. (2000). Towards a Vision of a Sustainable University. *International Journal of Sustainability in Higher Education, 1*(1), 20-34.
- Vare, P. (2006). From Region of Nations to Nation of Regions: The Practicalities of Setting ESD Indicators. [Stimulus material for breakout groups]. Presented at Indicators of Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March 2006.
- Vare, P., & Scott, W. (2007). Learning for a Change: Exploring the Relationship Between Education and Sustainable Development. *Environmental Education Research, 1*(2), 191-198.
- Velázquez, L., Mungui, N., & Sánchez, 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, 6*(4), 383-391.
- Vygotsky, L. S. (1978). *Mind and Society: The Development of Higher Mental Processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1986). *Thought and Language* Massachusetts Institute of Technology.
- Wadell, S. (2005). *Societal Learning and Change: How Governments, Business and Civil Society are Creating Solutions to Complex Multi-Stakeholder Problems*. Sheffield: Greenleaf Publishing Limited.
- Walker, P. (2004). Challenges of Greening a Decentralized Campus: Making the Connection to Health. In P. F. Barlett & G. W. Chase (Eds.), *Sustainability on Campus: Stories and Strategies for Change* (pp. 254-260). Cambridge, Massachusetts: The MIT Press.
- Wals, A. E. J. (2007). *Social Learning for a Sustainable World: Principles, Perspectives, and Praxis*. Wageningen: Wageningen Academic Publishers.

- Wals, A. E. J. (2009). *Review of Contexts and Structures for Education for Sustainable Development*. Paris: UNESCO.
- Wals, A. E. J. (2010a). *Message in a Bottle: Learning our Way Out of Unsustainability*. Inaugural lecture upon taking up the posts of Professor of Social Learning and Sustainable Development, and UNESCO Chair. 27 May 2010, Wageningen University, Wageningen.
- Wals, A. E. J. (2010b). Mirroring, Gestaltwitching and Transformative Social Learning: Stepping Stones for Developing Sustainability Competence. *International Journal of Sustainability in Higher Education*, 11(4), 380-390.
- Wals, A. E. J., & Blaze Corcoran, P. (2006). Sustainability as an Outcome of Transformative Learning. In J. Holmberg & B. E. Samuelsson (Eds.), *Drivers and Barriers for Implementing Sustainable Development in Higher Education* (pp. 103-110). Paris: UNESCO.
- Wals, A. E. J., & Blaze Corcoran, P. (in print). *Learning for Sustainability in Times of Accelerating Change*. Wageningen: Wageningen Academic Publishers.
- Wals, A. E. J., & Eerstman, N. (2007). *Learning from each Other: Achievements, Challenges the Way Forward. Report on Progress in Implementation of the UNECE Strategy for Education for Sustainable Development*. Paper presented at the Sixth Ministerial Conference "Environment for Europe", Belgrade, 10-12 October 2007.
- Wals, A. E. J., & Jickling, B. (2002). 'Sustainability' in Higher Education: From Doublethink and Newspeak to Critical Thinking and Meaningful Learning. *International Journal of Sustainability in Higher Education*, 3(3), 221-232.
- Wals, A. E. J., van der Hoeven, N., & Blanken, H. (2009). *The Acoustics of Social Learning: Designing Learning Processes that Contribute to a more Sustainable World*. Wageningen: Wageningen Academic Publishers.
- Wals, A. E. J., & van der Leij, T. (2007). Introduction. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 17-32). Wageningen: Wageningen Academic Publishers.
- Walton, J. (2000). Should Monitoring Be Compulsory Within Voluntary Environmental Agreements? *Sustainable Development*, 8(3), 146-154.
- Warren, C. A. B. (2002). Qualitative Interviewing. In J. F. Gubrium & J. A. Holstein (Eds.), *Handbook of Interview Research: Context and Method* (pp. 83-101). Thousand Oaks, London and New Delhi: Sage Publications.
- Webster, K. (2004). *Rethink, Refuse, Reduce... Education for Sustainability in a Changing World*. Preston Montford: FSC Publications.
- Webster, L., & Mertova, P. (2007). *Using Narrative Inquiry as a Research Method: An Introduction to Using Critical Event Narrative Analysis in Research on Learning and Teaching*. London: Routledge.
- Welsh Assembly Government. (2006). *Education for Sustainable Development and Global Citizenship (ESDGC) – A Strategy for Action*. Cardiff: Welsh Assembly Government. Retrieved April 26, 2009, from [http://www.esd-wales.org.uk/english/ESDreports/pdf/AP\\_E.pdf](http://www.esd-wales.org.uk/english/ESDreports/pdf/AP_E.pdf).

- Wenger, E. (1998). *Communities of Practice: Learning, Meaning and Identity*. New York: Cambridge University Press.
- Wenger, E. (2010). Conceptual Tool for CoPs as Social Learning Systems: Boundaries, Identity, Trajectories and Participation. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 125-144). London: Springer.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston: Harvard Business School Press.
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in Qualitative Research. *Qualitative Health Research*, 11(4), 522-537.
- Wildemeersch, D. (2007). Social Learning Revisited: Lessons Learned from the North and the South. In A. E. J. Wals (Ed.), *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis* (pp. 99-116). Wageningen: Wageningen Academic Publishers.
- Williams, P. M. (2008). *University Leadership for Sustainability: An Active Dendritic Framework for Enabling Connection and Collaboration*. Doctoral Thesis. Victoria University of Wellington, Wellington.
- Wolcott, H. (1994). *Transforming Qualitative Data: Description, Analysis and Interpretation*. Thousand Oaks: Sage Publications.
- Wong, E. O. W. (2003). Analysing the Contribution of Continuing Education and Leadership Empowerment to Sustainable Development Experiences from a Hong Kong Tertiary Institution. *International Journal of Sustainability in Higher Education*, 4(4), 364-374.
- Woodhill, J. (2010). Sustainability, Social Learning and the Democratic Imperative: Lessons from the Australian Landcare Movement. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 57-72). London: Springer.
- Wooliams, J., Lloyd, M., & Spengler, J. D. (2005). The Case for Sustainable Laboratories: First Steps at Harvard University. *International Journal of Sustainability in Higher Education*, 6(4), 363-383.
- Wright, T. (2002). Definitions and Frameworks for Environmental Sustainability in Higher Education. *International Journal of Sustainability in Higher Education*, 3(3), 203-220.
- Wright, T. (2004). The Evolution of Sustainability Declaration in Higher Education. In P. Blaze Corcoran & A. E. J. Wals (Eds.), *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice* (pp. 7-20). Dordrecht, Boston and London: Kluwer Academic Publishers.
- Wright, T. (2006). The Role of Research in Achieving a Sustainable Future? In J. Holmberg & B. E. Samuelsson (Eds.), *Drivers and Barriers for Implementing Sustainable Development in Higher Education* (pp. 121-126). Paris: UNESCO.
- Wright, T. (2010). University Presidents' Conceptualizations of Sustainability in Higher Education. *International Journal of Sustainability in Higher Education*, 11(1), 61-73.

- Wright, T., & Elliott, H. (2011). Canada and USA Regional Report. In GUNI (Ed.), *Higher Education in the World 4. Higher Education's Commitment to Sustainability: from Understanding to Action*. GUNI Barcelona.
- Yin, R. K. (2003). *Case Study Research: Design and Methods* (3rd ed.). Thousand Oaks, London, New Delhi: Sage Publications.
- Yin, R. K. (2006). Research Design. In D. de Vaus (Ed.), *Research Design* (pp. 5-22). London: Sage Publications.



# APPENDICES

## APPENDIX 1 LEARNING FOR SUSTAINABILITY INDICATOR FRAMEWORKS

Initiative	Process to develop indicators	Types of indicators defined	Values of the initiative	Limitations of the initiative
<p>UNECE ESD framework (2005, UNECE member states - Europe and North America )</p>	<ul style="list-style-type: none"> <li>- A UNECE Expert Group on ESD Indicators was formed with the task of assessing the implementation and effectiveness of the UNECE ESD Strategy. The group met four times and received feedback from various stakeholders, including national focal points and the UNECE Steering Committee on ESD.</li> <li>- A template including the indicators defined was developed for UNECE member states to report on the implementation of learning for sustainability at national levels.</li> <li>- A regional report was developed in 2007 outlining conclusions on</li> </ul>	<ul style="list-style-type: none"> <li>- In total, the UNECE learning for sustainability monitoring and evaluation system comprises 18 indicators and 48 sub-indicators. The framework includes:               <ul style="list-style-type: none"> <li>• Checklist indicators</li> <li>• Input indicators</li> <li>• Output indicators</li> <li>• Outcome indicators</li> </ul> </li> <li>- Most of the indicators are in the form of yes/no questions and provide opportunities for qualitative information. Some quantitative indicators are also defined.</li> </ul>	<ul style="list-style-type: none"> <li>- This initiative is the first attempt to define learning for sustainability indicators at a regional level. It has provided a momentum and showcased the value of defining learning for sustainability indicators.</li> <li>- It has provided a theoretical and methodological framework to construct indicators in this area which has been used by other stakeholders to improve the development of indicators.</li> <li>- Using a regional template create uniformity in reporting. All countries are asked to report on the same learning for sustainability components.</li> <li>- The indicators were not defined for comparison</li> </ul>	<ul style="list-style-type: none"> <li>- Prior academic and practical knowledge of learning for sustainability indicators was limited at the time when UNECE indicators were developed.</li> <li>- The indicators defined primarily assessed the context and structures in place to support learning for sustainability processes. Little information was captured about the quality of these processes or the changing processes resulting from learning for sustainability efforts.</li> <li>- Learning indicators were not included in the framework to support reflection in learning for sustainability processes.</li> <li>- Indicators were developed to capture information about all types of education (formal, non-formal and informal). However,</li> </ul>



	<p>the results of the template and recommendations to improve the indicators, data collection methods and reporting mechanism.</p>		<p>amongst countries, but to encourage learning within the region.</p> <ul style="list-style-type: none"> <li>- Qualitative indicators have been defined to capture observations and written information about the progress of the implementation of learning for sustainability at a country level. This was a difficult task taking into account that previous experiences on indicators had primarily used quantitative indicators.</li> </ul>	<p>little information was captured about non-formal and informal education.</p> <ul style="list-style-type: none"> <li>- The indicators included in the template could be answered in a yes/no format and more deep and qualitative information could be given to support each answer. The reality was that member countries reduced their answers to a yes or no. Qualitative and context-based perspectives were missing.</li> </ul>
<p>UNESCO Asia-Pacific DESD Indicators Project (2006 - , Asia-Pacific region)</p>	<ul style="list-style-type: none"> <li>- The project involved the participation of a wide range of participants and learning for sustainability experts which was key to the success of this initiative.</li> <li>- In the first phase, two teams were formed to assist in the project implementation. The first was an ESD Expert Team which was involved in an extensive consultation process on learning for sustainability indicators.</li> </ul>	<ul style="list-style-type: none"> <li>- The project outcome for the first phase was a publication on guidelines to construct national indicators for the DESD. The types of indicators proposed in the framework are: <ul style="list-style-type: none"> <li>• Status indicators (including baseline indicators)</li> <li>• Facilitative indicators (including context, process and learning indicators)</li> <li>• Effect indicators (including output,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Twenty countries participate in the project reflecting the high levels of support, involvement and engagement of this region in the development of indicator frameworks in the area of learning for sustainability.</li> <li>- The involvement of a wide range of stakeholders in framing the Guidelines was key to the success of the initiative. The Guidelines provide, for the first time, a framework which includes guidance on defining</li> </ul>	<ul style="list-style-type: none"> <li>- Support from the government and allocation of national resources have been identified as the main limitations to developing indicator frameworks.</li> <li>- More awareness among stakeholders and national partners about learning for sustainability is required to pull together efforts to develop indicator frameworks.</li> <li>- Need for constant capacity building opportunities to learn about monitoring processes has been identified.</li> </ul>

	<p>The second was a Guidelines review team which was involved in an online dialogue exchange. In the second phase of the project, UNESCO Bangkok invited nations to develop country reports (<i>Country Update</i>) outlining lessons learned, challenges and ways forward in developing indicator frameworks.</p>	<p>outcome, impact and performance indicators)</p> <ul style="list-style-type: none"> <li>- A combination of qualitative and quantitative indicators was highly recommended.</li> <li>- In the second phase of the project, member states in the Asia-Pacific were encouraged to define their indicator frameworks. In 2008, only three countries (Sri Lanka, Uzbekistan and Viet Nam) out of 20 participating states in the project had started to define learning for sustainability indicators. The rest were finalising their national learning for sustainability action plans which would be the basis for developing national indicators.</li> </ul>	<p>indicators, collecting data and reporting mechanisms.</p> <ul style="list-style-type: none"> <li>- The project has created momentum for learning for sustainability at national levels. Many countries have already defined national action plans to support learning for sustainability, established discussions around learning for sustainability, identify priorities and goals for learning for sustainability, form working groups and identify indicators.</li> <li>- Inter-sectoral collaboration and cooperation amongst countries is encouraged in the definition of indicator frameworks. Learning platforms have been created to share experiences, capture lessons learned and create dialogue about indicators.</li> </ul>	<ul style="list-style-type: none"> <li>- The possibilities of scaling the project exist, but no current initiative has tried to replicate the framework in other regions.</li> </ul>
<p>UNESCO DESD Global Monitoring and Evaluation Framework (2007-2015)</p>	<ul style="list-style-type: none"> <li>- A Monitoring and Evaluation Expert Group (MEEG) was formed to assess the global progress of the UN DESD and UNESCO's own contribution to the</li> </ul>	<ul style="list-style-type: none"> <li>- In the first phase, indicators were developed to assess the context and structures in place to support the UN DESD implementation at national levels. The choice of indicators was informed by</li> </ul>	<ul style="list-style-type: none"> <li>- The UN DESD GMEF has raised awareness and created momentum on learning for sustainability, the use of indicators, and monitoring and evaluation mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>- Ascertaining whether the UN DESD has made a difference is a difficult and complex task. The GMEF is more likely to capture changes in learning for sustainability at national, regional and global levels which have occurred during the</li> </ul>

	<p>Decade.</p> <ul style="list-style-type: none"> <li>- The MEEG developed a Global monitoring and Evaluation Framework (GMEF) and recommended the development of three reports which assessed: <ul style="list-style-type: none"> <li>▪ Phase I (2007-2009): context and structures</li> <li>▪ Phase II (2010 - 2011): process and learning</li> <li>▪ Phase III (2012-2015): impact and outcome</li> </ul> </li> <li>- Different components underpin the different phases and assist in the data collection process. For example, the components identified for phase I included a global questionnaire (including the indicators defined for phase I), complementary research, a multi-stakeholder consultation process, a UNESCO self-evaluation portfolio of evidence and</li> </ul>	<p>the work on indicators by the UNECE Expert Group on ESD Indicators and the UNESCO IUCN Asia Pacific Indicators Project. Basically, indicators of the first phase included baseline and context indicators (or checklist indicators), process indicators (or input indicators), outcome and output indicators.</p> <ul style="list-style-type: none"> <li>- Both qualitative and quantitative indicators were defined.</li> </ul>	<ul style="list-style-type: none"> <li>- It is underpinned by a complex and sophisticated process of involving stakeholders and capturing data through various components. The process undertaken adds value and enhances validity of the assessment mechanism.</li> <li>- Using a global questionnaire encourages countries to report on the same learning for sustainability issues and processes, adding uniformity in the reporting mechanism and facilitating the analysis process.</li> </ul>	<p>ten-year period of the DESD, rather than the DESD implementation itself.</p> <ul style="list-style-type: none"> <li>- It is difficult to involve all stakeholders and practitioners engaged in the UN DESD or learning for sustainability.</li> <li>- Resources and time constraints were identified in the mid-decade review as limitations of the monitoring process. The lack of resources meant that only information which was already available was captured and analysed. The information available is usually related to inputs, structures and support systems in place, rather than to learning and quality of teaching processes.</li> <li>- Using a global template or questionnaire revealed that not all concepts are understood in the same way by the different countries participating in the reporting exercise.</li> <li>- Indicators were developed to capture information about all types of education (formal, non-formal and informal). Just as the</li> </ul>
--	---	---	---	--

	<p>a longitudinal assessment (the latter was not implemented). In the second phase, the components identified are a literature review, a portal of experiences on learning for sustainability, case studies, a questionnaire (including the indicators for phase II) and a key informant analysis.</p>			<p>UNECE experience, data was primarily provided by specific Ministries (usually Ministries of Education and Environment) of each national government.</p> <ul style="list-style-type: none"> <li>- Little information was captured on non-formal and informal education. The involvement of relevant stakeholders and major groups is crucial to capture data on all areas of learning for sustainability.</li> <li>- The indicators included in the template could be answered in a yes/no format and more deep and qualitative information could be given to support each answer. Countries tended to limit their answers to a yes/no what reduced the opportunities to understand the progress related to each indicator.</li> </ul>
<p>The Nordic Council of Ministers initiative on learning for sustainability indicators (2005 -, Nordic countries)</p>	<ul style="list-style-type: none"> <li>- The learning for sustainability indicator framework was developed by an ESD Working Team with representatives from the different countries of the Nordic region and with the aim of ascertaining the contribution of</li> </ul>	<ul style="list-style-type: none"> <li>- In 2006, the indicator framework presented for the period 2005/2008 consisted of 12 key questions (quantitative and qualitative indicators) which were inspired by the checklist and input indicators defined by the UNECE Expert Group on ESD Indicators. Output and</li> </ul>	<ul style="list-style-type: none"> <li>- The development of indicators through open ended questions enabled countries to provide qualitative information about the progress made in the area of learning for sustainability in formal education.</li> <li>- The indicators were aligned to</li> </ul>	<ul style="list-style-type: none"> <li>- The little experience and expertise on learning for sustainability indicators and monitoring and evaluation systems constricts the possibilities of providing information about deep changes processes in learning for sustainability.</li> <li>- The risk of only involving the</li> </ul>

	<p>formal education in the implementation of the Nordic Council of Ministers Sustainability Strategy.</p> <ul style="list-style-type: none"> <li>- A set of key open ended questions (including the indicators defined) was developed. Ministers of Education in the different Nordic countries were invited to reply to these questions.</li> </ul>	<p>outcome indicators were recommended to assess progress from 2008 onwards.</p>	<p>the UNECE learning for sustainability indicators. Thus, the data captured at national levels could be used to report to both the Nordic Council and the UNECE initiatives.</p>	<p>Ministers of Education in the data collection and reporting format is that the data provided only reflects the government position and perspective on learning for sustainability.</p> <ul style="list-style-type: none"> <li>- The indicator framework developed reduces the understanding of learning sustainability to only formal education systems.</li> </ul>
<p>ENSI Quality Criteria (2002–2005, Europe and Asia-Pacific)</p>	<ul style="list-style-type: none"> <li>- The quality criteria are the second phase of an ENSI Comenius project which started in 2002. The first phase consisted of collecting criteria which were used to guide or support awards of Eco-Schools in Europe and the Asia-Pacific. The first phase culminated in the publication of a comparative study which informed the development of the quality criteria.</li> <li>- The quality criteria were defined collaboratively together with school</li> </ul>	<ul style="list-style-type: none"> <li>- Quality criteria were defined in the areas of teaching and learning; school policy and organisation; and, school's external relations. All criteria were developed using qualitative approaches.</li> </ul>	<ul style="list-style-type: none"> <li>- It provides a language and a framework on how learning for sustainability should look like at schools encouraging these organisations to engage in self-assessment mechanisms.</li> <li>- It has created discussion within schools on clarifying the changes required to reorient educational practice towards sustainability.</li> <li>- The framework is flexible enough to accommodate the different perspectives and approaches of sustainability of different countries and educational organisations.</li> </ul>	<ul style="list-style-type: none"> <li>- The quality criteria are considered to be a set of guidelines on how to approach sustainability at the school level. Thus, reporting mechanisms are difficult to develop as schools can decide what criteria to use or develop their own quality criteria.</li> <li>- No information is given to guide schools in collecting data or involving stakeholders in the development or adjustment of quality criteria.</li> </ul>

	initiatives, school educators and authorities, educational research institutions and other stakeholders.		- The framework has been conceived as an instrument for 'quality enhancement,' rather than for 'quality control.'	
ESDInds Project (2009-2011)	<ul style="list-style-type: none"> <li>- The ESDInds project consortium was made up of four Civil Society Organisations, two Research Institutions, and one Independent Advisor.</li> <li>- The ESDInds project consisted of developing indicators and tools which could measure and illustrate the social and spiritual impact of civil society organisations when they undertake a sustainable development project.</li> </ul>	- Indicators were defined to measure trust, integrity, justice, empowerment, unity in diversity, and care and respect for the community of life in businesses and civil society organisations. Civil Society Organisations were invited to trial the indicators developed in the ESDInds project within their own contexts, and provide feedback to help refine the indicators.	<ul style="list-style-type: none"> <li>- Knowledge about learning for sustainability and indicators was co-constructed between academics and community organisations.</li> <li>- The involvement of community organisations shifts the research paradigm away from traditional academic studies on learning for sustainability indicators. It also enables greater interdisciplinary opportunities and platforms for dialogue.</li> <li>- The end results of the project are directly useful as they are owned and by society.</li> <li>- Because useful indicators have been identified and co-developed with academic researchers, it is possible to develop toolkits useful to diverse groups of community society organisations.</li> </ul>	<ul style="list-style-type: none"> <li>- The duration of the project was short to analyse more deeply the impact of the indicators defined and to involve more stakeholders in the implementation process.</li> <li>- Little research exists on the co-construction of indicators between academics and society.</li> <li>- Civil society organisations need to see the value of this research to engage in developing and testing indicators.</li> </ul>

## APPENDIX 2 LEARNING FOR SUSTAINABILITY BENCHMARKING FRAMEWORKS

Benchmarking initiatives	Description	Types of indicators and criteria defined	Values of the initiative	Limitations of the initiative
<p>UtC TLR &amp;KE (2008 -2010, UK)</p>	<ul style="list-style-type: none"> <li>- A set of questions on TLR &amp; KE were developed in the first UtC survey in 2008-2009. UtC received 22 submissions from participating universities.</li> <li>- In 2009-2010, the set of questions was improved by a learning for sustainability expert group. The new set of questions were developed with the aim of benchmarking universities' performance in learning for sustainability, enabling learning processes and sharing of best practices.</li> </ul>	<p>The set of questions/indicators developed in 2009 -2010 are clustered in the following themes:</p> <ul style="list-style-type: none"> <li>i) <i>University commitment to sustainability:</i> the commitment of learning for sustainability is outlined by institutions.  <i>Eg., does your university's strategic plan –or similar high-level document- state a clear commitment to incorporating sustainable development in its Teaching &amp; Learning and other academic activities?</i></li> <li>ii) <i>The current state of play:</i> institutions define a 'baseline' from which to develop plans, organise internal reporting and plan assessment processes.  <i>Eg., please say something about the methodology used to help you with the scoping exercise.</i></li> <li>iii) <i>Action planning:</i> identification of priority areas and development of action plans through the information gathered during the scoping exercise.  <i>Eg., have you developed action plans or similar such as an implementation strategy to increase or enhance levels of sustainable</i></li> </ul>	<ul style="list-style-type: none"> <li>- UtC provides 'bench-learning' opportunities to support the understanding, development and sharing of best practice in learning for sustainability.</li> <li>- Indicators defined embrace a wide range of possible activities to embed learning for sustainability with a whole-systems approach.</li> <li>- Improving internal operations and learning from other institutions' performance and activities is possible as the UtC develops a series of reports for internal use and to communicate the results of the general sector publicly.</li> <li>- UtC (as well as other benchmarking initiatives) provides a system for universities to capture data which otherwise would have not been possible to collect in many cases.</li> </ul>	<ul style="list-style-type: none"> <li>- The reporting template is complex and difficult to understand.</li> <li>- Questions and indicators defined only assessed sustainability education in the formal curriculum and student experience.</li> <li>- Some questions of UtC do not apply to small universities or universities which have just started the process of embedding learning for sustainability across the institution.</li> <li>- Some questions appear biased towards more traditional institutions which tend to operate with more autonomous academic strategies at departmental level, whereas newer universities tend to be monitored against central strategies.</li> <li>- Although evidence for each</li> </ul>

		<p><i>development in Teaching and Learning and your second area of academic activity?</i></p> <p>iv) <i>Sharing success with colleagues and seeing the bigger picture:</i> processes put in place to assess and report on an ongoing basis. Eg., <i>have you implemented systems to enable you to collect information, monitor progress and report on the work you are doing to include sustainable development in your Teaching and Learning and other academic activities?</i></p> <p>v) <i>Quality of information:</i> refers to the quality of the work universities do.  Eg., <i>Please indicate the quality of the information collected to measure your performance in this area.</i></p> <p>vi) <i>Improvement cycle:</i> it refers to the impact of activities.  Eg., <i>we can provide trend data to demonstrate our progress towards improving our performance or achieving our goals.</i></p>		<p>question needs to be provided, it is not clear how the documentation lead institutions to engage in a transformation process towards sustainability. For example, having a learning for sustainability strategy for the university is a first step in outlining the commitment of the institution to learning for sustainability. However, it is not clear how this strategy is enacted in a day-to-day basis at the university.</p>
<p>People&amp;Planet Green League (2011 League Table, UK)</p>	<ul style="list-style-type: none"> <li>- The People&amp;Planet Green League is an independent league table which ranks the environmental and ethical performance of UK higher education institutions.</li> <li>- It measures the universities' commitment to sustainability and their actual performance on the ground in comparison to other institutions.</li> </ul>	<p>Various indicators have been defined in two different areas.</p> <p>i) <i>Management and policy criteria:</i> includes indicators related to publically available environmental policy; environmental management staff; environmental auditing and management systems; ethical investment; carbon management; ethical procurement and fairtrade; sustainable food; staff and student engagement; and, curriculum.</p>	<ul style="list-style-type: none"> <li>- The value of the People&amp;Planet Green League was acknowledged by WWF in 2007 which awarded this initiative with a BEMA for 'Best Campaign.'</li> <li>- It is a powerful initiative to raise awareness of environmental issues and challenge senior managers to engage in the sustainability agenda.</li> </ul>	<ul style="list-style-type: none"> <li>- The methodology of the People&amp;Planet Green League was primarily criticised for not incorporating educational and research issues associated with sustainability.</li> <li>- The criteria used for marking institutions was also criticised for being too limited.</li> <li>- People&amp;Planet acknowledged</li> </ul>



	<ul style="list-style-type: none"> <li>- This initiative was initiated in 2007. However, not until 2011 has it integrated sustainability education indicators.</li> </ul>	<ul style="list-style-type: none"> <li>ii) <i>Performance criteria</i>: includes indicators related to energy sources; waste; carbon reduction; and, water.</li> </ul>		<p>the need for expanding its indicators. The 2011 league incorporates indicators of sustainability education.</p>
<p>STARS 1.0 (2007-2010, USA and Canada)</p>	<ul style="list-style-type: none"> <li>- STARS 1.0 is an AASHE initiative which was constructed over three years with the collaboration and feedback from many university stakeholders and sustainability experts. In 2008, about 70 colleges and universities in the USA and Canada participated in a pilot study showing the growing interest and need for benchmarking tools in this area.</li> <li>- Different credits (indicators) have been defined to gauge progress in sustainability in higher education. The credits defined need to lead to improved environmental, social and economic performance. The majority of credits measure performance, but strategic credits have also been defined to capture qualitative data on the implementation of sustainability activities. They also measure the impact of sustainability in</li> </ul>	<p>The set of questions and credits defined are clustered in the following categories:</p> <ul style="list-style-type: none"> <li>i) <i>Curriculum and research</i>: this category seeks to recognise institutions which offer to students' sustainability learning opportunities outside the formal curriculum; have formal sustainability programmes and courses; and, conduct sustainability research. It looks at co-curricular education, curriculum and research.  <i>Eg., student sustainability educators program; or, sustainability-focused courses; or, faculty involved in sustainability research.</i></li> <li>ii) <i>Operations</i>: this category seeks to recognise institutions which are taking steps to improve sustainability performance in the areas of: Buildings, climate, dining services, energy, grounds, purchasing, transportation, waste and water.  <i>Eg., building operations and maintenance; or, food purchasing; or, building energy consumption.</i></li> <li>iii) <i>Planning, administration and engagement</i>: this category seeks to recognise institutions which have institutionalised sustainability allocating resources to coordination and</li> </ul>	<ul style="list-style-type: none"> <li>- AASHE has engaged more than 70 colleges and universities in the USA and Canada which reflects the growing interest of universities in engaging in benchmarking initiatives such as STARS.</li> <li>- The engagement of so many institutions enables the creation of an extensive database on the overall sector performance in the area of sustainability and creates greater opportunities to share best practices amongst institutions.</li> <li>- STARS provides a very clear and sophisticated rating process through the development of credits. The credits defined embrace the three sustainable development dimensions and are valued regarding the impact they have in higher education. In addition, those credits which do not apply to certain institutions are not</li> </ul>	<ul style="list-style-type: none"> <li>- The scoring and rating system is based on a subjective methodology which is under current improvement.</li> <li>- STARS has developed a quite complex and time consuming template. Although it looks at many areas regarding sustainability, collecting data and reporting the results can be challenging for some institutions.</li> <li>- Because its focus on assessing performance, the template is quite technical with less opportunities to provide qualitative data or explain stories of transformation.</li> </ul>

	<p>higher education. Two different credits (tier one and tier two credits have been identified and indicate the different impact of sustainability activities.</p> <ul style="list-style-type: none"> <li>- STARS rating includes a bronze, silver, gold, platinum and STARS Reporter award. The latter is for organisations which are interested in participating in this project, but do not seek to be benchmarked against other institutions or make public the data submitted.</li> </ul>	<p>management; work to advance diversity and affordability in campus; incorporate sustainability into their human resources programs and policies; make investment decisions that promote sustainability; and give back to their communities through community service, engagement and partnerships. The areas which this category looks at are: coordination and planning, diversity and affordability, human resources, investment and public engagement.</p> <p><i>Eg., sustainability plan; or, diversity and equity coordination; or, employee satisfaction evaluation.</i></p> <p>iv) <i>Innovation</i>: this category seeks to recognise those institutions which are implementing innovative projects in the area of sustainability. Institutions can submit information about their innovative projects.</p>	<p>counted against the overall score.</p> <ul style="list-style-type: none"> <li>- Those institutions which do not seek to benchmark themselves against other or provide data to be made available publicly can still participate in STARS and obtain the STARS reporter award.</li> <li>- STARS understands the value of providing sustainability learning experiences within the informal and social context of higher education institutions. STARS has introduced an area of co-curricular education which looks at the learning opportunities offered to students outside the formal curriculum. Many opportunities to include some of the social learning indicators which my thesis proposes exist within this framework.</li> </ul>	
AUA (2009-2011, Asia-Pacific region)	<ul style="list-style-type: none"> <li>- The AUA is a two-year collaborative project as part of the UNU IAS ProSPER.Net alliance. It is led by the Hokkaido University (Japan) in close collaboration with the Asian Institute of Technology (AIT, Thailand), TERI University (India), Universito Sains malaysia (USM), Yonsei University (Korea) and</li> </ul>	<p>Higher education institutions select the theme which they want to be assessed. The AUA has developed 25 questions (qualitative and quantitative) in four major sustainability categories:</p> <p>i) <i>Governance</i>: it assesses the overarching administrative structure and policy frameworks which influences the promotion of teaching, learning and research in the area of sustainability.</p>	<ul style="list-style-type: none"> <li>- The AUA enables participating universities to select the areas they are focusing on to be assessed. Social learning processes could be assessed using this framework.</li> <li>- It encourages self-reflection of institutions' own strengths and weaknesses in the process of</li> </ul>	<ul style="list-style-type: none"> <li>- The AUA is currently being reviewed and improved. As not many experiences exist in benchmarking universities in the area of sustainability education, this process is slow and challenging.</li> <li>- The thematic approach which AUA uses presents both advantages and</li> </ul>

	<p>UNU-IAS.</p> <ul style="list-style-type: none"> <li>- It provides a model which seeks to facilitate and encourage universities to engage in sustainability education and raise the quality and impact of their activities by providing benchmarking tools that provide diversity of mission.</li> <li>- A total of 19 universities in the Asia-Pacific engaged in this initiative in 2009/10.</li> <li>- A first draft of the AUA model was developed in 2009-2010 after consultation with key stakeholders. A development of an AUA peer consultation model was undertaken in 2010-2011 which consisted of engaging universities in the region in completing the 'self-awareness questions' identified to benchmark institutions and set the goals to improve sustainability education activities with the help of the Appraisal Committee. Institutions can select a theme to be assessed such as gender equality, cultural diversity, rural development, etc.</li> </ul>	<p>Eg., is [assessment area] an element of our university's strategic plan? If so, how?</p> <p>ii) <i>Education</i>: it assesses curriculum, teaching, capacity development and other learning opportunities that institutions offer to students, staff and local communities.</p> <p>Eg., <i>what mechanisms does your university have to ensure that students gain an understanding of sustainable development?</i></p> <p>iii) <i>Research and consultancy</i>: it assesses institutions' efforts and commitment to sustainability education research and consultancy.</p> <p>Eg., <i>does the institution provide incentives to encourage research for [assessment area]?</i></p> <p>iv) <i>Outreach and transformation</i>: it assesses the extent of transformation that universities have undergone toward sustainability education and tries to understand institutions' outreach.</p> <p>Eg., <i>please list any [assessment area]-related seminars, conferences, workshops or training sessions at local, national and international level organised by the institution from 2005 onward.</i></p>	<p>completing the questionnaire.</p> <ul style="list-style-type: none"> <li>- The Appraisal Committee helps institutions to set their own goals for further improvement in the area of learning for sustainability.</li> </ul>	<p>disadvantages. Because each university selects a very different theme which they want to assess, benchmarking institutions against others is difficult unless many universities select the same theme or the number of participating institutions is big enough to allow comparisons.</p> <ul style="list-style-type: none"> <li>- Due to the scale of this initiative, not all countries and universities will have the same understanding of the indicators included in the AUA model.</li> </ul>
--	--	---	--	--

### **APPENDIX 3 PARTICIPANT INFORMATION AND CONSENT FORM – Collective memory-work**

#### **Project Title: Living and Learning Sustainability in Higher Education: Constructing Indicators of Social Learning**

You are invited to participate in a study about social learning for sustainability in higher education. The purpose of the study is to explore what and where opportunities for social learning for sustainability exist in higher education institutions.

The study is being conducted by Ingrid Mulà (Email: [imula@glos.ac.uk](mailto:imula@glos.ac.uk); Tel: 01242715194) to meet the requirements for the degree of Doctorate of Philosophy (PhD) under the supervision of Professor Daniella Tilbury (Email: [dtilbury@glos.ac.uk](mailto:dtilbury@glos.ac.uk); Tel.: 01242714690) and Dr. Alison Scott-Baumann ([asbaumann@glos.ac.uk](mailto:asbaumann@glos.ac.uk); Tel.: 01242714746) from the University of Gloucestershire.

If you decide to participate, you will be asked to join a group of co-researchers on collective memory- work. In this group, co-researchers will be asked to write about some of their learning experiences on social learning for sustainability at their institutions. The group will then discuss these stories raising questions and issues about social learning in higher education. The researcher will facilitate this discussion which will help her to build an understanding of social learning for sustainability applicable to higher education and construct indicators which can help to improve the institutional development for sustainability. This research will be held from May 2010 – June 2010 involving 3 sessions (approximately 1/2h per session). The discussion sessions will be recorded only if all co-researchers agree.

Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results.

If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason and without consequence.

I, ..... have read (or, where appropriate, have had read to me) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form for my own records.

Participant’s Name and Signature:.....

Participant’s Signature:.....Date:.....

Investigator’s Name: INGRID MULA

Investigator’s Signature:.....Date:.....

The ethical aspects of this study have been approved by the University of Gloucestershire. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Chair of Research Ethics Sub-Committee (RESC) at the University of Gloucestershire (Email: [mmaclean@glos.ac.uk](mailto:mmaclean@glos.ac.uk); Tel.: 01242715158).

## **APPENDIX 4 PARTICIPANT INFORMATION AND CONSENT FORM - Interviews**

### **Project Title: Living and Learning Sustainability in Higher Education: Constructing Indicators of Social Learning**

You are invited to participate in a study about social learning for sustainability in higher education. The purpose of the study is to explore what and where opportunities for social learning for sustainability exist in higher education institutions.

The study is being conducted by Ingrid Mulà (Email: [imula@glos.ac.uk](mailto:imula@glos.ac.uk); Tel: 01242715194) to meet the requirements for the degree of Doctorate of Philosophy (PhD) under the supervision of Professor Daniella Tilbury (Email: [dtilbury@glos.ac.uk](mailto:dtilbury@glos.ac.uk); Tel.: 012424690) and Dr. Alison Scott-Baumann ([asbaumann@glos.ac.uk](mailto:asbaumann@glos.ac.uk); Tel.: 01242714746) from the University of Gloucestershire.

If you decide to participate, you will be asked to answer some questions regarding institutional culture and social learning for sustainability in your institution. This interview was designed to be approximately an hour in length. However, please feel free to expand on the topic or talk about related ideas. Also, if there are any questions you would rather not answer or that you do not feel comfortable answering, please say so and the interview will be stopped or the research student will move on to the next question, whichever you prefer.

Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results. All the information will be kept confidential. The research student will keep the data in a secure place. Only herself and her supervisors mentioned above will have access to this information. Upon completion of this project, all data will be destroyed or stored in a secure location.

The participation in this interview is voluntary. The research student will explain you the intent and purpose as well as the social benefits and risks of this research prior to the interview. If, for any reason, at any time, you wish to stop the interview, you may do so without having to give an explanation. You also have the right to review, comment on, and/or withdraw information prior to the doctoral thesis submission.

I, ..... have read (or, where appropriate, have had read to me) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from the research at any time without consequence. I have been given a copy of this form for my own records.

Participant's Name and Signature:.....  
Participant's Signature:.....Date:.....

Investigator's Name: INGRID MULÀ  
Investigator's Signature:.....Date:.....

The ethical aspects of this study have been approved by the University of Gloucestershire. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Chair of Research Ethics Sub-Committee (RESC) at the University of Gloucestershire (Email: [mmaclean@glos.ac.uk](mailto:mmaclean@glos.ac.uk); Tel.: 01242715158).

## **APPENDIX 5 SUBJECTING THE RESEARCH DESIGN TO PEER REVIEW CRITIQUES**

During my PhD, my supervisors have encouraged me and ensured that I have had enough opportunities to share the aims of the study, research design and results with other PhD students and academics in the field. Subjecting my research to the scrutiny of peers (see *member checking* in section 6.5.2) aims to ensure quality and validity related to *criticality* and *integrity* (see section 6.5.3). It has also assisted me in reframing critical issues about the methodology and research processes as well as reflecting on the values and limitations of my inquiry.

From 22 - 25 September 2008, I had the opportunity to participate in a research seminar in Switzerland organised by the Environment and School Initiatives (ENSI) and entitled *Engaging Research on Education for Sustainable Development*. The seminar engaged a group of young researchers and professionals in the area of learning for sustainability. Although it was in the early stages and my research design needed more refinement, I had the opportunity to share my initial design and decisions related to my PhD with different colleagues. At this point, the main criticism which I received referred to the subjective approach which underpinned the use of lived experiences to explore social learning for sustainability. In response to this criticism, I argued that social learning for sustainability is an area which has not been explored before in the higher education sector. Little information has been collected and analysed in this area because researchers and practitioners find it difficult to work with the complexity which this concept embraces. Stories or lived experiences facilitate the exploration of this concept as concrete examples of how social learning takes place in higher education can be identified. In addition, the subjectivity of these experiences was contrasted with the collective reflections and discussions held during the collective memory-work sessions in each institution. Co-researchers were asked to discuss each of the stories collectively and identify key institutional influences regarding social learning in the area of sustainability.

From 27 - 29 October 2008, I had the opportunity to attend the *Conférence Internationale de Bordeaux Working Together on Education for Sustainable*

*Development* in France. Invited by ENSI, I facilitated a workshop together with Roel van Raaij and Antoine Heideveld entitled *The Role of Social Learning in the Attainment of Sustainable Development*. In this workshop, I started to understand the real value of social learning and the need for providing experiences, research and examples on how it takes place in different educational settings. I also had the opportunity to share my research design with Roel van Raaij who gave me critical ideas on how I could look at social learning processes in higher education. I continued critical conversations with Roel during his visit to my university from 21-23 January 2009.

On 6 October 2008, I also had the opportunity to facilitate a workshop together with my first supervisor entitled *Developing Indicator Frameworks: What Difference is ESD Making?* at the Barcelona World Conservation Congress organised by the World Conservation Union (IUCN). This work assisted me in consolidating and challenging my thinking on learning for sustainability and indicators.

From 2009 onwards, I have tried to attend as many relevant conferences and seminars as I could and present my research or facilitate workshops related to the topics of my study. For example, I participated at the UNESCO World Conference on ESD (Bonn, 31 March – 2 April 2009), Postgraduate Researchers Interested in Sustainability Matters (PRISM) seminars and conferences (Cheltenham, 10 February 2010 and 19 - 20 May 2011), V and VI Seminario de Educación para el Desarrollo Sostenible (Valsaín, 18 - 20 March 2010 and 14-16 June 2011), and the Global University Network for Innovation (GUNI) Conference (Barcelona, 23-25 November 2010).

The experience gained attending and presenting at these conferences has assisted me in challenging my thinking on social learning and indicators. Critical issues have been raised regarding the methodology and the research decisions made. Many colleagues have asked why I have selected only staff to conduct my research. My response to this is that staff are key change actors to engage in the sustainability agenda in higher education. In addition, they can offer relevant information about the institutional culture of their institutions and explain the different cultural changes related to sustainability experienced at their institutions. This information is key to exploring my research



question related to the dialectical relationships likely to exist between social learning and institutional culture for sustainability.

## **APPENDIX 6 THE PILOT STUDY AT THE UNIVERSITY OF GLOUCESTERSHIRE**

### **A6.1 THE UNIVERSITY OF GLOUCESTERSHIRE**

The University of Gloucestershire was awarded university status in 2001, but its origins and history spans nearly two centuries. Currently, the institution consists of a community of nearly 10,000 undergraduate and postgraduate students and 9,000 staff. The University has a strong focus on enhancing the teaching and learning experience of students and has committed to embed sustainability through a whole-systems approach.

The University offers a wide range of undergraduate courses in the areas of Business Management; Computing; Media, Art and Communications; Social Sciences; Biology; Education; and, Sports. After a period of restructuration which took place in 2010, the University is currently formed by three faculties: Faculty of Media, Arts and Technology; Faculty of Business, education and Professional Studies; and, Faculty of Applied Sciences, which are based in the three different campuses. Two campuses are located in Cheltenham (Francis Close Hall and The Park) and a third (Oxstalls) is in Gloucester.

The University of Gloucestershire was selected as the pilot study of my research because its national and international recognition to integrate sustainability in the core of the institution. The University of Gloucestershire was the first university in the UK to achieve an ISO 14001; was ranked first at the People & Planet Green League in 2008 and in the top five from 2009-2011; was ranked first for the Teaching, Learning, Research and Knowledge Exchange (TLR & KE) section of Universities that Count (UtC) in 2010; was the winner of a Green Gown Award for Continuous Improvement in 2008 and 2010 and highly commended for Courses in 2007 and 2008; in 2008, it was awarded a UNU RCE (RCE Severn).

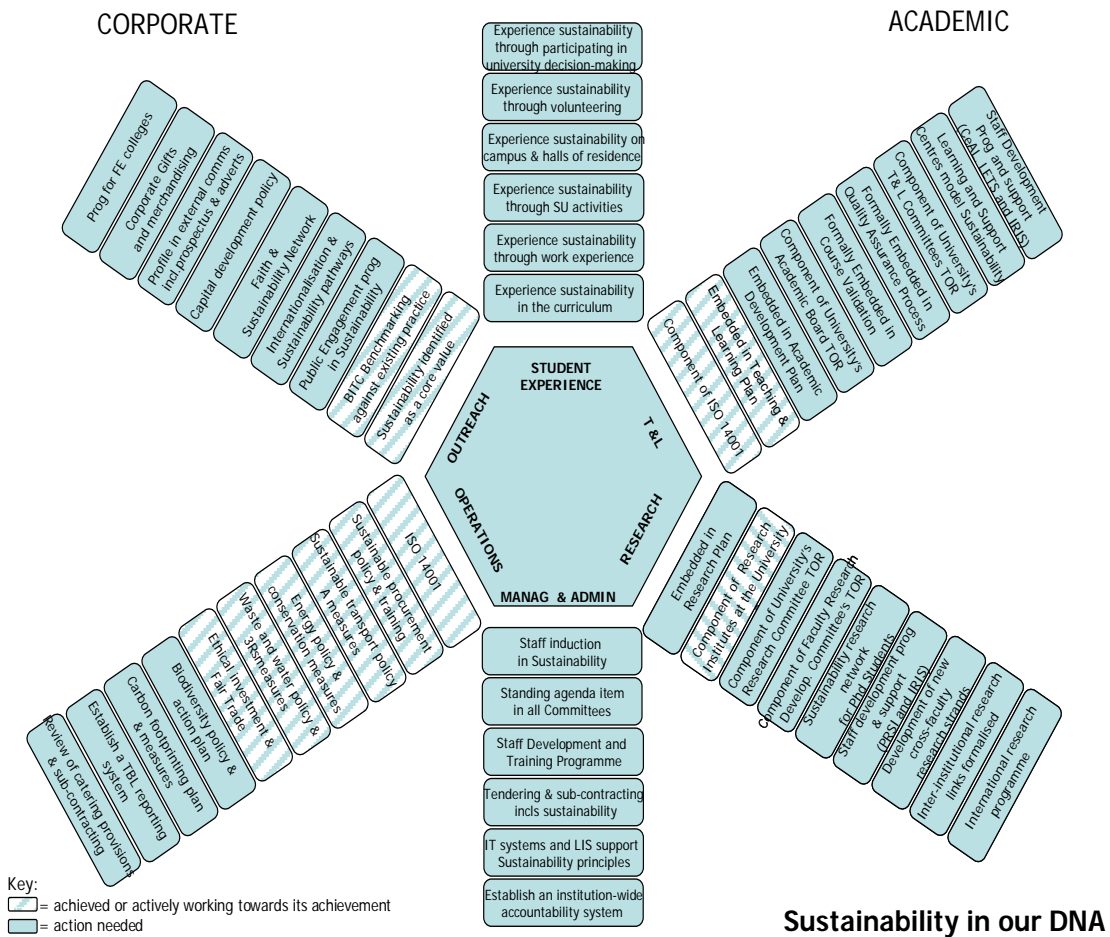
Over the past 20 years, the University has pioneered and widely promoted sustainability accross activities. In the 1980s and 1990s when the University was still a college of higher education, as Tilbury and Ryan (in print) explain, various environmental champions started to embed sustainability in the formal curriculum. Sustainability was

integrated in subject areas such as landscape architecture, tourism and leisure studies, linguistics and ICT. Some of this work is documented in the seminal series “The Environmental Agenda” (Richardson & Ali Khan, 1995) or in the “Greener by Degrees: Exploring Sustainability through Higher Education Curricula” (Roberts & Roberts, 2007). Also in this period, the University started to engage in introducing green energy efficient technologies, developing a green travel plan and establishing performance improvement systems across campus and curriculum. The University was the first in the UK to receive formal accreditation from the British Standards Institute (BSI). Despite all these advances and projects, the engagement in the sustainability agenda at the University of Gloucestershire was only happening on the fringes of the organisation. In 2007, in order to implement systemic changes at the University level regarding sustainability, the institution appointed a new leadership post. The new Director of Sustainability was to (i) overview and facilitate changes to integrate sustainability at the University; (ii) undertake cutting-edge research in the area of sustainability through the newly established International Research Institute in Sustainability (IRIS); and, enhance public engagement and support partnerships for sustainability through the UNU RCE. Currently, the sustainability agenda is led by the sustainability team at the University of Gloucestershire which is formed by: a Director of Sustainability; a Sustainability Coordinator and Administrator; an Associate Director of Sustainability (Carbon); an Associate Director of Sustainability (Academic); a Coordinator of Public Engagement and Partnerships for Sustainability; a Sustainability Officer (Voluntary Activities); a Project Coordinator (HEFCE LGM Project); a Sustainability Projects Officer; and, four IRIS PhD students.

In 2009, the University’s commitment to sustainability was formalised in the new ambitious University’s Sustainability Strategy “Promising Futures: a Sustainability Strategy for the University of Gloucestershire 2009-2015.” The strategy recognises that sustainability entails much more than greening the university’s campus. The University contributes to sustainability through its operations, educational activities, research and outreach. The Strategy outlines the University’s vision regarding sustainability and sets up key strategic actions to embed sustainability within the culture or DNA of the institution.

The following figure, sourced from the University's Sustainability Strategy, illustrates how the institution is seeking to embed sustainability in the core structures and activities of the institution.

### Embedding sustainability at the University of Gloucestershire



Source: University of Gloucestershire (2009, p.19)

### A6.2 INFORMATION ABOUT KEY INFORMANTS AND CO-RESEARCHERS

The following table presents important information about the key informants selected at the University of Gloucestershire.

### Information about key informants

Key informant	Observations
GLOS-ki1	-Member of sustainability team.
GLOS-ki2	-Member of sustainability team.
GLOS-ki3	- Member of sustainability team.

The following table presents important information about the co-researchers selected at the University of Bradford.

### Information about co-researchers

Co-researchers	Role at the University	Commitment to sustainability	Date of 1:1 meeting	Participation in the research	No. of CMW sessions attended
GLOS-c1	Senior Lecturer	Not committed to sustainability before starting to work at the institution.	25 March 2009	Yes	3/3
GLOS-c2	Support staff	Not committed to sustainability before starting to work at the institution.	26 March 2009	Yes, but withdrew after session 1 because of other work commitments.	1/3
GLOS-c3	Senior Lecturer	Previously, actively engaged in sustainability issues.	26 March 2009	Agreed to participate, but withdrew because of incompatibility with dates of sessions.	0/3
GLOS-c4	Campus Manager	Committed to sustainability before starting work at this	27 March 2009	Yes	3/3

		institution.			
GLOS- c5	Support staff	Not committed to sustainability before joining the University.	3 April 2009	Yes	2/3
GLOS- c6	Support staff	Committed to sustainability before starting work at this institution.	6 April 2009	Yes	3/3
GLOS-c7	Senior manager and lecturer	Committed to sustainability before starting work at this institution.	6 April 2009	Yes	2/3
GLOS-c8	Administrator	Committed to sustainability before starting work at this institution.	8 April 2009	Yes	3/3

### A6.3 INFORMATION ABOUT COLLECTIVE MEMORY-WORK SESSIONS

The following table presents information on the collective memory-work sessions organised at the University of Bradford.

#### Collective memory-work sessions

Sessions	Date	Venue	Co-researchers who attended
<b>Session 1: Introduction</b>	6 May 2009, 12-13.30h	CeAL Building CE 202 – UoG	GLOS-c1 GLOS-c2 GLOS-c4 GLOS-c5 GLOS-c6 GLOS-c7 GLOS-c8
<b>Session 2: Collective analysis of stories I</b>	3 June 2009, 12-14h	CeAL Building CE 202 – UoG	GLOS-c1 GLOS-c4

			GLOS-c5 GLOS-c6 GLOS-c7 GLOS-c8
<b>Session 3: Collective analysis of stories II</b>	25 June 2009, 12-13.30h	CeAL Building CE 202 – UoG	GLOS-c1 GLOS-c4 GLOS-c6 GLOS-c8

#### **A6.4 PROGRAMME OF COLLECTIVE MEMORY-WORK SESSIONS**

- *Programme for session 1: Introduction*

1. Introduction to this session
2. Ethical issues (recording + confidentiality + anonymity + withdrawal)
3. Quick introductions of co-researchers
4. My background and research interests
5. Research aims + methodology
6. Social learning for sustainability: Introduction
7. Involving members of staff in the research: collective memory-work at the University of Bradford
8. Guidelines to write the learning story
9. Questions about the method
10. Information and Consent Form

- *Programme for session 2: Collective analysis of stories I*

1. Introduction to this session
2. Each co-researcher shares the learning story
3. 10-15 min discussion after each story

- *Programme for session 3: Collective analysis of stories II*

1. Introduction to this session

2. Each co-researcher shares the re-written learning story and explains why and how s/he decided to change the story.
3. 10-15 min discussion after each story.

#### **A6.5 DOCUMENTATION GIVEN TO CO-RESEARCHERS**

This document was given to co-researchers in the first session of the pilot study to explain to them this study and how they were going to be involved. This document was modified to give to co-researchers in Bradford and Bristol.

### **THE PILOT STUDY AT THE UNIVERSITY OF GLOUCESTERSHIRE**

#### **Session 1: Introduction**

Wednesday, 6 May 2009, 12-13.30, CeAL Building – CE202

#### **Research questions**

- How and where do opportunities for social learning for sustainability exist in Higher Education Institutions (HEI)?
- How can social learning shift thinking and actions of staff (within the institution) in the area of sustainability?
- Is there a dialectical relationship between social learning for sustainability and institutional development for sustainability?
- How can we recognise social learning for sustainability and promote it within HEIs? Which indicators would assist in this task?

#### **Why a Pilot Study?**

##### **To inform the research planning and approach**

This is a very challenging study because:

1. The research theme and research objectives are very complex.



*Q. How can we capture how members of staff learn for sustainability in higher education Institutions?*

2. The method chosen for this study, collective memory-work, has never been used to investigate sustainability issues.

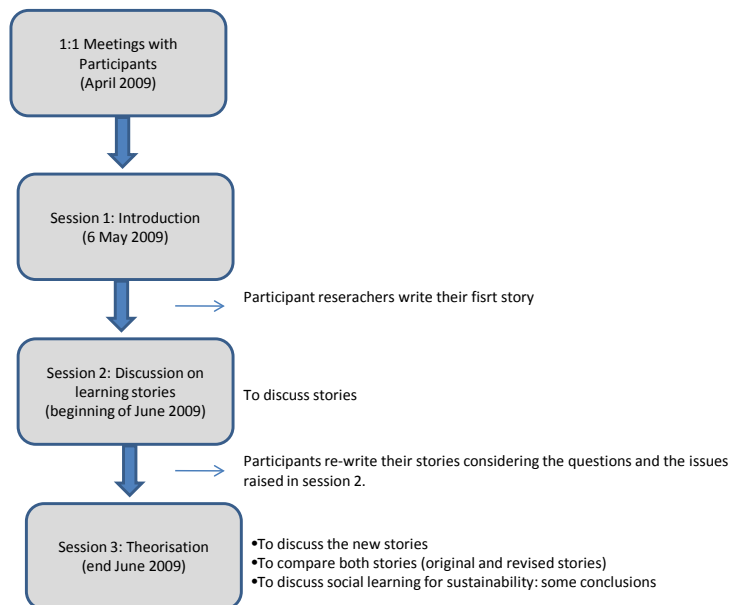
*Q. Will collective memory-work be useful for capturing learning stories about sustainability?*

### **What does this involve for participants?**

A group of **collective memory-work** will be set up and will meet **three** times from May to June 2009. Each participant will **write** a story about social learning and will **share** it with the rest of the group. These stories will be **discussed** in the group in order to build an understanding of social learning in higher education.

### **COLLECTIVE MEMORY-WORK**

#### **Phases of collective memory-work:**



### **Rules of Collective Memory-Work**

Write a memory

of a particular episode, action or event

in the third person

in as much detail as is possible, including even “inconsequential” or trivial detail

but without importing interpretation, explanation or biography

Write an early memory

### **Rules for the discussion session**

- Each co-researcher expresses opinions and ideas about each memory in turn, and
- looks for similarities and differences between memories.
- Each memory-work member identifies clichés, generalisations, contradictions, metaphors, etc. and
- discusses theories, popular conceptions, sayings and images about the topic.
- Each co-researcher examines what is not written in the text, and
- re-writes the memories

### **QUESTIONS**

Q. What do you think about this method?

Q. What difficulties do you think may be encountered?

Q. Are you comfortable with the rules of collective memory-work?

Q. Would you like to change any of them?

**Please contact me if you have any questions**

Email: [imula@glos.ac.uk](mailto:imula@glos.ac.uk)

Tel.: 01242 71 5394

**A6.6 KEY ISSUES EMERGING FROM SESSIONS**

▪ *Session 1*

- Discussions were focused on education for sustainability in higher education, rather than social learning for sustainability.
- As I was not clear enough that my research was focused on only staff social learning, discussions were sometimes focused on students' learning.
- It would have been useful to have given them a clearer explanation of my own definition of social learning for sustainability in higher education.
- Co-researchers stated that it would be challenging for them to write a story on a particular event.
- Some co-researchers were not sure if writing in the third person would be a useful rule in our collective memory-work.
- Interesting themes such as negotiation, university community and organisational learning were discussed in this first session.

▪ *Session 2*

- A few co-researchers submitted their stories one week before the session.
- The majority of stories were about courses, seminars and conferences. Although they were interesting stories, they were not aligned with my definition of social learning for sustainability. Session 1 was crucial in exploring what I mean by social learning.
- Co-researchers were very satisfied with the outcomes of this session as they experienced a very different style of doing research and could share personal experiences with their colleagues.

- Co-researchers were more interested in sharing stories than in making questions about them or critically reflect on them.
  - Although it was a very interesting session, I realised that as a group we were not prepared to become real co-researchers.
  - Some of the most interesting themes which emerged during the session were: frustration, isolation and learning through colleagues.
- *Session 3*
    - Only one co-researcher re-wrote the story and only four co-researchers attended the session.
    - This session proved not to work, as I had not prepared an alternative programme which could have been useful to continue the discussions from the previous sessions.
    - I felt that it was crucial to re-think how this session would be undertaken in Bradford and Bristol.

#### A6.7 SAMPLE OF MEMO

<p>When: 6 May 2009</p> <p>Location: CeAL Building, Room CE 202, University of Gloucestershire, Cheltenham</p> <p>Subjecty: Reflection on session 1 of collective memory-work</p>
---

<b>Reflections</b>
Co-researchers continuously referred to students' social learning. I need to make clearer that this study is focused on staff and not students.
Co-researchers kept reflecting on seminars, conferences and committees. I need to define social learning more accurately and decide whether I want to include this type of social learning.
I think that co-researchers do not understand very well the type of questions I want to ask. This is because these questions are still not clear to me.
Co-researchers continuously repeated that there is a lack of social interaction among the

University community. I need to explore this in more depth.
A co-researcher stressed the fact that students are more transient than before and this influenced the way they are engaged in sustainability. I found this really interesting as it shapes the culture of the university. I think I need to explore this more and see how staff perceive this and the implications that this may have for them.
GLOS-c6 talked about her learning experience with dealing with people. She mentioned the word “negotiation” as a way to learn together and get things done. I found this really relevant, as it was the first time that someone had talked about a possible characteristic of social learning. I should explore more the types of negotiation that take place at higher education institutions, how people are involved and the purposes of it.
Co-researchers agreed that social learning will happen if the University becomes a real community. What does this mean: ‘a university becoming a community’? I need to check this in the literature.
A co-researcher was constantly emphasising that social learning will only happen if the University becomes a learning organisation. I need to look for the characteristics of a learning organisation and how social learning takes place. Then, ask questions related to what the institution is doing to become a learning organisation.
We had a long conversation about the problem of members of staff being isolated in their offices and not sharing knowledge and experiences with other staff. I should explore this as a constraint of social learning.
We talked about how the learning experience of support and academic staff is not valued enough. It will be important to know what opportunities the University offers to engage staff in social learning.
<b>Reflections about methodology</b>
Writing about a specific event or moment can be challenging to participant researchers.
Participant researchers decided to ignore one rule of collective memory-work (write an early memory). I think it should also be avoided in Bradford and Bristol as it is not relevant to this study.
Some co-researchers did not understand why they had to write in the 3 <sup>rd</sup> person. I think that the problem was that they didn’t know what writing in the 3 <sup>rd</sup> person meant. I should explain this much more carefully and give some examples.
It is important to constantly email co-researchers to keep them on board and remind them of the dates of meetings and ‘homework’ to do. I should also attach to emails the documentation I give them during the sessions.
Participants appreciated that I cooked for them. Food is a good excuse to start having conversations and help people feel more relaxed and comfortable. However, this cost me a lot of money and also took me a lot of time. I need to think about other ways of ‘giving something back’ to participants.

A good start to the session was sharing staff learning experiences on sustainability. This led to a very interesting discussion on social learning and sustainability.

## **APPENDIX 7 CONDUCTING THE RESEARCH AT THE UNIVERSITY OF BRADFORD**

### **A7.1 THE UNIVERSITY OF BRADFORD**

The University of Bradford received its Royal Charter in 1966 but its origins date back to the 1830s. Since 1996, the student population has increased from 2,000 to over 12,500 people. The University has a very distinctive student profile. More than 50% of first-year students are from minority and low income groups. 45% of students live in their parental homes and around 22% are from outside the UK, drawn from more than 140 different countries. As stated in the University corporate strategy “Making Knowledge Work” (2009-2014), the institution has been described as a global village.

The University of Bradford offers a wide range of full-time and part-time undergraduate and postgraduate courses and recruits more than 2,500 staff. Although it has a strong scientific and technological focus, the University also offers a wide range of social and humanity courses. The University comprises seven distinctive Schools: Engineering, Design and Technology; Computing, Informatics and Media; Health Studies; Life Science; Management; Lifelong Education and Development; and, Social and International Studies.<sup>210</sup> All the Schools are placed in the main city campus except for the School of Management which is located three miles away from the main campus. The School of Health is currently also located on a separate site ten minutes walk from the main campus and near to St. Luke’s Hospital. The School moved to the city campus in 2011.

The University of Bradford was selected as a case study because of its recognised involvement in embedding sustainability across the institution. The University of Bradford has been nationally recognised for its work on sustainability through the Times Higher Education Award 2009 for Outstanding Contribution to Sustainable Development and the International Sustainable Campus Network Awards 2010. The University has been in the top 10 positions in the People & Planet Green Table 2009 and 2010. It also

---

<sup>210</sup> The School of Social and International Studies is home to the world-renowned department of Peace Studies which was established in the 1960s and was the first of its kind in the world.

won the Green Gown Award 2009 Continuous Improvement – Institutional Change and was highly commended in the category of Courses. In 2010, it was highly commended in the category of Continuous Improvement – Specific Area.

diversity as well as global citizenship. The University has a firm commitment to confronting inequality and celebrating diversity both in the curriculum and the social fabric of the campus. For BRAD-int1, the University's engagement in sustainability probably started in the mid 1960s when the institution established the first ever department of Peace Studies in the world.

“...when you look back and you think about where we are today and how we use the UNESCO definition,<sup>211</sup> you can see that a lot about it has come out of the... Sustainability is about what Peace Studies started to do back in the sixties, but it didn't call it that, it did call it many other things.” (BRAD-int1, 9 August 2010)

The sustainability agenda at Bradford was institutionally formalised in 2005 with the launch of a sustainable development programme branded as 'Ecoversity'.<sup>212</sup> As stated by BRAD-int1:

“It is not a statement that we are an Ecoversity. It's not that [...] Ecoversity is an initiative to get us where we want to be, a more sustainable organisation.” (BRAD-int1, 9 August 2010)

The launch of Ecoversity was strongly influenced by both internal and external challenges. Internally, there was an urgent need to refurbish the University campus and its buildings which could meet students' satisfaction regarding their expectations on buildings, hall of residences and campus amenities and facilities. Externally, the University was influenced by a Higher Education Funding Council of England (HEFCE)<sup>213</sup>

---

<sup>211</sup> The University of Bradford has adopted the UNESCO principles for education for sustainable development to guide curriculum (formal and informal) development.

<sup>212</sup> 'Ecoversity' is the name given to the University of Bradford programme of embedding the principles of sustainability across the institution.

<sup>213</sup> HEFCE is a non-departmental public body from the UK Government which promotes high quality education and research and distributes public money for teaching and research to universities and colleges



consultation document which led to several senior managers ask questions on what sustainable development would mean at the University of Bradford and how it would differ from other universities in England. At the earlier stages (pre 2005), Ecoversity focused on improving environmental management systems and was centred in three main areas: (i) the rehabilitation and modernisation of the campus; (ii) the city of Bradford as a key influence in student's experience; and, (iii) the student experience within the context city-campus.

The institution was clear about the need for embedding sustainable development across the whole university. The next phase of Ecoversity (2005-2006) consisted of improving buildings and facilities as well as establishing a project board which would oversee the programme.

The committee structure was replaced by a task group activity in phase three of Ecoversity (2007-2010) - a change process which represents quite well how the University operates in terms of decision-making in the area of sustainability. The third phase was key to accelerate the sustainability developments at Bradford, as the University received a £3.1M Strategic Fund Grant from HEFCE in 2007 for a three-year project entitled Ecoversity StuDent. The project was designed to develop and implement a whole institutional approach to learning for sustainability. Its emphasis was to embed learning for sustainability into the learning and living experience of all Bradford students through the formal curriculum, wider curriculum, and operations and services. At the same time, the institution participated in the Higher Education Academy Change Academy initiative<sup>214</sup> where the participating group set up an organisational change plan based on the Ecoversity project. The institutional change agenda started by removing the Ecoversity formal committee structures and giving the space to staff and students to decide on what

---

in England. The Council plays an important role in ensuring accountability and promoting good practice. Source: <http://hefce.ac.uk>

<sup>214</sup> The higher Education Academy is an independent organisation funded by grants from the four UK higher education funding bodies, subscriptions from higher education institutions, and grant and contract income for specific initiatives. It supports the higher education sector by working with individual academics, departments and institutions. Change Academy is one of the initiatives from the Higher Education Academy which brings together cross-institutional teams and gives them the time and space to think creatively about and develop a major change initiative. Source: <http://www.heacademy.ac.uk/ourwork/universitiesandcolleges/changeacademy>

the institution needed to do in the area of sustainability. At this stage, several conferences were organised where staff and students were empowered to take the sustainability agenda forward and different tasks groups<sup>215</sup> were formed to lead the change in different specific sustainability areas.

In 2010, with the end of Ecoversity StuDent and the funding which provided a full-time dedicated team, a new phase started which is focused on Ecoversity as a strategic and selling point at the University. The focus is to ensure that Ecoversity is an umbrella for policy development at the University and a selling point to attract local, national and international students. The following table summarises all the different processes and key steps of the University of Bradford’s sustainability journey.

**The process of embedding sustainability at the University of Bradford**

Phases	Focus and activities
<p><b>Phase I – Environmental Management (Pre 2005)</b></p>	<p>In early 2004, the University had a traditional approach to environmental management. The activities undertaken were:</p> <ul style="list-style-type: none"> <li>- Appointment of an environmental manager.</li> <li>- Setting up of an Environmental Working Group chaired by a senior academic to oversee initiatives aimed at reducing the environmental impact of the institution.</li> <li>- Participation in the Carbon Trust Higher Education Carbon Management programme.</li> <li>- Development of the first University wide travel survey and Green Travel Plan for the period 2004-2009.</li> <li>- Other developments: implementation of an environmental policy, initial water audits and recycling projects.</li> </ul>
<p><b>Phase II – A Move to Sustainable Development (2005-2006)</b></p>	<p>In 2005, the University changed its commitment to sustainability from just tackling environmental impacts to addressing a much broader sustainability agenda in a systemic way. The activities carried out during 2005-2006 consisted of:</p> <ul style="list-style-type: none"> <li>- Development of a vision for embedding sustainable development</li> </ul>

<sup>215</sup> A Task Group is a group of engaged and informed people who can lead change in specific areas of interest to Ecoversity and themselves. There are currently seven tasks groups: Energy & Carbon; ESD; Food & Drink; Local Action; Purchasing; Reduce, Reuse, Recycle; and Integrated Travel. These tasks groups are chaired by a senior manager at the institution who does not know anything about the area of activity.

	<p>across the institution through Ecoversity.</p> <ul style="list-style-type: none"> <li>- Establishment of a programme board to oversee the development of Ecoversity under four objectives: environment, community, education for sustainable development and economy. Each of these thematic areas had its own champion and a work plan to guide progress.</li> </ul>
<b>Phase III – Whole Institutional Change (2007-2010)</b>	<p>The University received a £3.1M Strategic Development Fund grant from HEFCE in early 2007 for a project known as Ecoversity StuDent. This project aimed at emphasising a student focus on sustainable development. In June 2007, a new Vice Chancellor stated publicly his commitment to the programme. At the same time, the Pro-Vice Chancellor for Learning and Teaching (now Deputy Vice Chancellor) was asked to take on the role of Programme Sponsor. Ecoversity had therefore entered a new phase in terms of leadership, decision-making structures, teaching and learning, communication and widespread staff/student engagement, projects and performance.</p>
<b>Phase IV – A Socially and Environmentally Responsible University (2010 +)</b>	<p>In Phase IV, Ecoversity is seen as key strategic initiative to be used as a means for demonstrating the University’s distinctiveness in the sector and, thus, as a good promotional tool. Ecoversity will now be a core vision which the institution will adopt in all its processes and policies.</p>

## A7.2 INFORMATION ABOUT KEY INFORMANTS AND CO-RESEARCHERS

The following table presents important information about the key informant selected at the University of Bradford.

### Information about the key informant

Key informant	Observations
BRAD-ki1	<ul style="list-style-type: none"> <li>- Senior lecturer/researcher</li> <li>- Member of the Ecoversity team.</li> </ul>

The following table presents important information about the co-researchers selected at the University of Bradford.

### Information about co-researchers

Co-	Role at the	Commitment to	Date of 1:1	Participation	No. of
-----	-------------	---------------	-------------	---------------	--------

<b>researchers</b>	<b>University</b>	<b>sustainability</b>	<b>meeting</b>	<b>in the research</b>	<b>CMW sessions attended</b>
BRAD - c1	Department administrator	Not committed to sustainability before starting to work at the institution.	16 February 2010	Yes	3/3
BRAD - c2	Part-time lecturer, part-time researcher. At the moment of undertaking my research, she was delivering sustainability as part of her research role.	Not committed to sustainability before starting to work at the institution.	16 February 2010	Yes, but withdrew after session 1 because of other work commitments.	1/3
BRAD - c3	Academic/support staff	Previously actively engaged in sustainability issues.	17 February 2010	Yes	2/3
BRAD - c4	Support staff	Committed to sustainability before starting work at this institution.	17 February 2010	Yes	3/3
BRAD - c5	Lecturer	Already engaged in sustainability issues.	17 February 2010	Yes	3/3
BRAD - c6	Lecturer	Not committed to sustainability before joining the University.	18 February 2010	Agreed to participate, but withdrew because of incompatibility with dates of sessions.	0/3
BRAD - c7	Support staff	Not committed to sustainability before joining the University.	18 February 2010	Yes	2/3

### A7.3 INFORMATION ABOUT COLLECTIVE MEMORY-WORK SESSIONS

The following table presents information on the collective memory-work sessions organised at the University of Bradford.

#### Collective memory-work sessions

Sessions	Date	Venue	Co-researchers who attended
<b>Session 1: Introduction</b>	9 March 2010, 13-14h	Room F25 (Richmond Building), University of Bradford	BRAD-c1 BRAD-c2 BRAD-c3 BRAD-c4 BRAD-c5 BRAD-c7
<b>Writing stories I</b>	23 - 24 March 2010	Different venues	BRAD-c1 BRAD-c2 BRAD-c3 BRAD-c4 BRAD-c5 BRAD-c7
<b>Session 2: Collective analysis of stories I</b>	16 April 2010, 10-12h	Room F25 (Richmond Building), University of Bradford	BRAD-c1 BRAD-c3 BRAD-c4 BRAD-c5 BRAD-c7
<b>Session 3: Collective analysis of stories II</b>	11 May 2010, 13-15h	Room F25 (Richmond Building), University of Bradford	BRAD-c1 BRAD-c4 BRAD-c5

#### **A7.4 PROGRAMME OF COLLECTIVE MEMORY-WORK SESSIONS**

- *Programme for session 1: Introduction*

1. Introduction to this session
2. Ethical issues (recording + confidentiality + anonymity + withdrawal)
3. Quick introductions of co-researchers
4. My background and research interests
5. Research aims + methodology
6. Social learning for sustainability and institutional culture (poster)
7. Involving members of staff in the research: collective memory-work at the University of Bradford
8. Guidelines to write the learning story
9. Questions about the method
10. Information and Consent Form

- *Programme for session 2: Collective analysis of stories I*

1. Introduction to this session
2. Each co-researcher shares the learning story
3. 10-15 min discussion after each story

- *Programme for session 3: Collective analysis of stories II*

1. Introduction to this session
2. Each co-researcher shares the re-written learning story and explains why and how decided to change the story.
3. 10-15 min discussion after each story.
4. I share key issues arisen from previous sessions to co-researchers and ask critical questions which need to be clarified.

## **A7.5 DOCUMENTATION GIVEN TO CO-RESEARCHERS**

- *Research summary attached to invitation email*

### THE RESEARCH

Higher Education institutions play a vital role in achieving sustainability, contributing to it through education, research and operations, and providing learning for the decision-makers of the next generation. Higher education institutions not only provide research and policy in sustainability, but also create and facilitate environments for students and staff to learn and live sustainability. However, learning opportunities in sustainability are often thought to occur only in formal settings, i.e. facilitated by educators and teachers in a classroom. This thesis looks at the learning which occurs within the informal and social contexts of higher education institutions. This learning is often named 'social learning.'

The research will be conducted at the University of Bristol and University of Bradford, and will seek to capture and document the lived experiences of staff (academic, administrative and support) that connect with social learning for sustainability in these institutions. This research will ultimately construct indicators of social learning which can help higher education Institutions assess their current contribution towards achieving sustainability.

### METHODOLOGY

The core technique used in this study is collective memory-work, which aims to encourage social learning when it is conducted. The research will involve a group of 8 participants in each higher education institution who will reflect on their stories about social learning for sustainability.

### *WHAT DOES IT INVOLVE FOR PARTICIPANTS?*

Participants will be engaged in three different sessions between March and May 2010.

### Session 1: Introduction (approx. 1h)

Introduction to the research and methodology. Task: After the first session, you are asked to write a story about a learning experience (maximum 1 page).

### Session 2: Collective analysis of stories (approx. 2h)

The different stories are shared and discussed. Task: After this session, you are asked to re-write your story.

### Session 3: Collective analysis of stories (approx. 2h)

In this session, we will discuss the re-written stories and how social learning could be promoted at higher education institutions.

#### *HOW ARE THE ETHICAL ISSUES ADDRESSED?*

- The data gathered in the different sessions will only be used to conduct this research and will be destroyed after it is finished.
- Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results.
- If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason and without consequence.
- You will be able to sign a participant consent form where all these ethical issues are further explained.

#### *WHAT CAN YOU GAIN FROM BEING PART OF THIS PILOT STUDY?*

- The collective memory-group is intended to be a social learning process in itself. Thus, one of its objectives is that you take part in a learning experience which can be fruitful for your own work or simply for your own interest. You will have the opportunity to share your experiences and insights about sustainability within a group that has a common interest.



- Social learning for sustainability has not been explored a great deal in higher education institutions. By joining the group, you will be part of an exciting and innovative new area of research in sustainability.
- *Documentation given to co-researchers the first session of collective memory-work*

.....

.....

**Living and Learning Sustainability in Higher Education:**

**Constructing Indicators of Social Learning**

**Session 1: Introduction**

Tuesday, 9 March 2010, 13-14h – Room F25 (Richmond Building), University of Bradford

.....

.....

**THIS RESEARCH**

***What are the aims of the study?***

- To seek a deeper understanding of how social learning for sustainability occurs in higher education institutions. The study focuses on experiences of academic, support and administrative members of staff.
- To explore the relationships which are likely to exist between social learning and institutional culture regarding sustainability.
- To construct indicators which can assist higher education institutions in assessing and improving their contribution to social learning in the attainment of sustainability.

***How does the study interpret social learning for sustainability? (poster)***

Social learning as defined by the study is the learning which occurs through social engagement or interaction within the university's sites and campuses.

- I define social interaction as the communication established between at least two people. Social interactions may happen casually, such as in an informal conversation, or more formally, such as in meetings or networks.
  
- Social learning as defined by this study excludes the learning which takes place within formal educational settings and programmes of the university. For example, it excludes the learning taking place as a result of formal staff development courses or formal lectures. However, it takes into account the learning which takes place in seminars, conferences and events organised by the institution which are not part of a university's formal educational programme or plan.

#### ***Why is it important?***

- Previous research undertaken in the area of sustainability in higher education has focused on:
  - campus management and ecological footprinting
  - embedding sustainability into the curriculum
  - policy analysis
  - Although there has been substantial work on these areas, research in higher education has not contributed to understanding the relationship between learning and engagement for sustainability and institutional culture within higher education itself.
  
- This thesis opens a new field of investigation and innovation in education for sustainability and higher education.

#### ***What methods will be used?***

- I am using a **case study approach** to capture **social learning experiences of staff** in the area of sustainability.

- I selected the **University of Gloucestershire** as a pilot study. The pilot study took place in between February and June 2009 and informed the research planning and approach.
- I have selected the **University of Bradford** and the **University of Bristol** as the in-depth case studies.
- The three universities have been selected because of their explicit commitments to sustainability as institutions. The institutions have also been recognised by the sector as leading examples of sustainability in higher education.
- I am using a wide range of research methods:
  - Collective memory-work
  - Interviews
  - Review of institutional documents
  - Key informant input and international advisory group

***How are you going to be involved?***

- I am interested in **collaborative** and **participative research** processes where members of staff can have a voice and the power to influence the findings of the study.
- I seek to involve you in a participative research process which consists of sharing and discussing your **stories** on social learning for sustainability as a basis to identify common institutional influences.

**COLLECTIVE MEMORY-WORK**

Origins: feminist research method to explore female sexualisation.

We will use the method as a basis to identify common institutional influences in social learning.

It breaks down the hierarchical relationships between the researcher and the researched. We are all co-researchers.

*Sessions and phases of collective memory-work in Bradford*

**1:1 INFORMAL MEETINGS**

(16-18 February 2010)

**Task 1:** Each co-researcher writes a story

I will come to the University to help you in the process of deciding and writing your story.

**SESSION 1: Introduction**

(Tuesday, 9 March 2010, 1-2 pm)

- Introduction to the research
- Introduction to collective memory-work
- Forming a collective memory-work group

**SESSION 2: Collective analysis of stories I**

(Friday, 16 April 2010, 10-12h)

- Sharing and analysing the stories with the group
- Identifying common institutional influences

**Task 2:** Each co-researcher re-writes the first story

**SESSION 3: Collective analysis of stories II**

(Tuesday, 11 May 2010, 13-15h)

**I will share the findings of the research with you.**

## **Next step - Writing a story: Procedures and rules**

### ***Task 1: Writing a story on social learning for sustainability***

#### ***Guiding questions to writing the story:***

Do you recall any conversations or social situations which have influenced your thinking or commitment towards sustainability?

What was it about those social interactions that were key influences?

How much were these social interactions influenced by the institutional environment/culture?

#### ***Rules for writing the story:***

- Write the story in the third person (she/he) instead of the first person (I). You can use a pseudonym to identify yourself in the story.
- Try to describe the moments in as much detail as possible including the trivial information.

### **Please contact me if you have any questions**

Email: imula@glos.ac.uk

Tel.: 01242 71 5394

## **A7.6 KEY QUESTIONS DISCUSSED IN SESSION 3 OF COLLECTIVE MEMORY-WORK**

### **Institutional culture**

The university is composed by different sub-cultures (students, staff, disciplines, campuses, departments, etc.) which have their own agendas. These cultures do not usually work alongside each other.

**Researcher's reflection:** Social learning happens at the various sub-cultures of the institution.

**Q.** In what sub-cultures is it more likely to happen?

**Q.** Is there any sub-culture driving change in other sub-cultures or more powerful in creating cultural change towards sustainability?

The mission and the vision of the university do not reflect the reality of what the university is in every aspect. However, in many ways, the mission does reflect some of

the conflicts which take place at the university. For example, the tension of academic staff between research and teaching and learning. On a daily basis, each department has its own balance to enact these conflicts.

**Researcher's reflection:** Whereas sometimes the mission and vision of a university are used as a tool for creating discussions and promoting sustainability, sometimes, they are just documents which exist because they need to be there.

**Q.** Are the mission and vision of the institution used as arguments or tools for social learning discussions? Or are the “just there”?

**Q.** Do champions in sustainability use them as tools to promote social learning?

There is a strong perception of having a bureaucratic culture which constrains changes towards sustainability/innovation.

**Researcher's reflection:** It is important to know at what levels it constrains social learning opportunities. Getting examples from co-researchers would be useful.

**Q.** How does bureaucracy influence social learning opportunities?

The university does not promote a shared culture with shared values. There is a shared sense of identity within departments, professions and disciplines, but not with the institution as a whole.

**Researcher's reflection:** There is a need to create different windows/doorways for social learning to take place. A different range of opportunities of social learning should be created for the different type of values and identities co-existing in the institution.

**Q.** What different windows should be created?

### **Ethos**

There is a perception of lack of pride of being from Bradford. There is a culture of cynicism. This affects the way the university operates. However, staff and students think that the university is great in comparison with the local community.

**Researcher's reflection:** It relates to the values and identities of the university and the local community. Although this is interesting, I am not sure how relevant this is in this research.

**Q.** What is it about Bradford University that makes it excellent in terms of social learning?

### **Institutional management and structures**

Senior management are committed and interested in taking the sustainability agenda forward and promote changes towards a more sustainable university.

From a top-down approach, the university misses middle management to support sustainability initiatives. From a bottom-up approach, there is a need for more social spaces where conversations can happen and ideas around sustainability are passed on.

**Researcher's reflection:** It will be interesting to have some examples of how the senior management and members of staff promote social learning regarding sustainability, and how the middle management could also contribute to this agenda.

**Q.** What are some examples of social learning initiatives supported by senior management?

**Q.** How could middle management support social learning?

### **Participation, social events and volunteering activities**

In formal events, not all staff are able to participate properly. Some staff feel uncomfortable to participating in events where senior management are also involved.

**Researcher's reflection:** Social learning events should not be led by senior managers.

**Q.** Are there any examples of social events with excellent participation from all staff? How could participation be enhanced in these type of events?

Informal events during working hours do not tend to be very successful. Some staff cannot leave their jobs to attend an *informal* event. Staff who could attend these kinds of events feel guilty about going because of the work load. Staff feel anxious thinking about everything that needs to be done.

**Researcher's reflection:** Some of these events may not be seen as relevant to many staff. Depending on the time of these events some staff could assist and others could not. For example, staff with family responsibilities don not tend to attend after-hours events.

**Q.** What type of social events are the ideal ones, or more useful to staff?

It is difficult to convince the university and the department of human resources about the value of staff volunteering.

**Researcher's reflection:** I might explore if, in other universities, including Bristol, volunteering opportunities are more valued and how they are supported.

### **Physical space**

Physical spaces are the visible symbols of what the university is. It also reflects the aspirations of the university and these aspirations meet the reality.

The space has a big impact on what conversations and learning takes place. There is a lack of social spaces where staff and students can socialise.

**Researcher's reflection:** For social learning to take place, social spaces are needed.

**Q.** What social spaces would co-researchers like to see?

### **Communication and knowledge transfer**

There is an academic individualistic culture that constrains how communication takes place in the university.

The university promotes "external" knowledge transfer. However, internally, the university does not support knowledge transfer of learning that takes place between people within the institution.

There is a perception of knowledge being power. By sharing your knowledge, you become less powerful.

**Researcher's reflection:** This is related to how social learning should be perceived. It should be perceived not as a knowledge transfer opportunity, but a collaborative and joint exploration exercise.



**Institutional norms and procedures**

Some sustainability issues are now taken as institutional norms. The university does not celebrate enough the achievements made to date.

**Researcher’s reflection:** It is interesting to see how sustainability initiatives become institutional norms. It would be interested to know what social learning enables this to happen.

**Q.** How institutional norms, such as recycling, happen? What social learning enabled them to happen?

**Overall reflection:** Few issues have been raised about the way learning happens at the institution.

***Overall questions***

**Q.** How do staff learn?

**Q.** What would it look like an institution where social learning takes place all the time?

**Q.** What would it happen in the institution?

**A7.7 SAMPLE OF MEMO**

When: 9 March 2010  
Location: Train Bradford-Cheltenham

<b>Reflections</b>
<p>The university has not a single culture. Studying the culture of a university is very complex because many sub-cultures exist within the institution. There are sub-cultures in each department, within members of staff and students, and individuals. Some of these sub-cultures may have contradictory guiding rules and values. The complex cultural context of an institution may influence the ways social learning occurs and, thus, how it should be promoted at an institutional level.</p> <p>I really need to start reading about institutional culture. It may help me to understand and guide better the discussions of session 2.</p>
<p>The mission and vision of the university cannot show the great variety of values and beliefs which exist in the institution. However, the vision and mission of a university will</p>

try to somehow integrate this complexity. Each department or individual will then guide the actions depending on what they think is important and is aligned to their ways of working.

Does the vision and mission of the university reflect on the value of social learning? I should review the corporate strategy and the sustainability strategy to find out if social learning is valued as a way to engage staff in sustainability.

Bradford has focused its efforts regarding sustainability with the Ecoversity project. This is the final year of the project and members of staff are asking if the project can have a long term impact in the university community. A co-researcher raised the issue on the importance of social learning to ensure that sustainability will still be at the core of the institution. Social learning is seen as learning which lasts as it is happening all the time. Through promoting social learning in the area of sustainability, the institution can ensure that engagement in sustainability is possible even when there are no concrete projects going on regarding sustainability.

Co-researchers agreed that there are many investigations regarding sustainability in higher education, but not much work has been done in this area, which they all thought would be interesting to explore within the collective memory-work group.

This research is going to raise some quite important political issues about the university. I need to be careful with the ethics.

I should think about working on the poster about social learning for sustainability more deeply.

### Reflections on methodology

Co-researchers think that the research method is exciting, fun and creative.

There were some issues raised about ethics:

- Co-researchers have decided to hide the identity of members of staff in Bradford in their stories.
- There was an issue raised regarding co-researchers censoring themselves in the writing-up of their stories because what they want to say has political and/or sensitive consequences.

A co-researcher was concerned about writing a story with regard to the audience. He said that depending on the audience he would write or explain things differently and that might be an issue of consideration when conducting memory work.

Some discussion was created around this issue. Most of the co-researchers agreed that they would write the story as they think about it. The fact that the story is written in the third person enables them to step back from the story and talk about the learning and the institution without feeling that they need to censor themselves.

One co-researcher asked whether the story should be a critical incident. I answered the question saying that if they wanted to, they could talk about a single moment, but they could also consider writing a story which is spread over time. However, they should always keep in mind that there should be reflections in the story about social interactions and engagement.

Co-researchers agreed that sustainability involves a learning process throughout time. Few members of staff would have a single critical social interaction on social learning for sustainability.

One co-researcher expressed his feelings about writing. He said that he was feeling a little bit scared about writing and sharing the story with the group because of his poor writing style. In the session I emphasised that as a group nobody would judge the writing style. The important thing is the content of the story and the discussions which will follow the story.

I need to make him feel comfortable doing so next time when I meet him to discuss his story.

Will co-researchers censor themselves in the story they write because they might think that there are some politically incorrect things to say?

I will need to analyse this after the second session.

I think that the research method was quite clear to them. I also think that the members of the group have skills to somehow become co-researchers. I will need to emphasise the importance of their role in participating in the research in the next sessions, so they always have in mind that I am seeking their collaboration in guiding the findings of the research.

Co-researchers acknowledge the reflective process of doing collective memory-work.

I talked to them about sharing the findings of the research at the end of the process and asked for feedback by email. I could also consider meeting them individually to discuss the findings after the process is finished.

The next phase will be emailing co-researchers this week to thank them, give them the documentation online for their records, tell them that the time for next session has changed to 16 April from 2.30-4.30, and give them some dates to meet individually and talk about their stories. I should look at the calendar and see when it will be best to go back to Bradford.

I should also email BRAD-int1 and see if we can arrange a meeting to talk about what is happening and how I want to involve him. BRAD-c1 said that she will start keeping a record about my research for the Ecoversity files.

## A7.8 LIST OF INTERVIEWEES

The following table presents information about the interviewees selected at the University of Bradford.

### List of interviewees

Interviewee	Date of interview	Role at the University
BRAD-int1	9 August 2010, 16-17h	- Senior manager
BRAD-int2	10 August 2010, 10-11h	- Senior manager and lecturer
BRAD-int3	10 August 2010, 11-11.30h	- Support staff
BRAD-int4	10 August 2010, 12-13h	- Member of the allotment group
BRAD-int5	10 August 2010, 14-15h	- Sabbatical officer at the Students Union

## A7.9 INTERVIEW TEMPLATE

### Sustainability at the University of Bradford

- Could you explain how sustainability has become a priority at the University of Bradford?
- How did the Ecoversity Project and “Ecoversity StuDent” start?
- How has the University changed since the Ecoversity project started?

- Which is the future for Ecoversity/sustainability at the University?

#### Social learning in the area of sustainability at the university

- What type of social learning opportunities (eg., formal and informal events/seminars/ conferences) in the area of sustainability exist at the University of Bradford?
- What type of social learning opportunities could be promoted within the university (eg., online social networks)?
- Who facilitates social learning for sustainability at the University?
- Where are the places where social learning is more likely to happen?
- Could you identify any institutional barriers which constrict the emergence of social learning processes?

#### Institutional culture on social learning

- Could you identify different cultures at the university and the type of social learning that they tend to have (eg., academic culture – social learning to spark research activities)?
- Are there social learning opportunities where staff from different backgrounds and sub-cultures come together? How do you think this can help progress sustainability in higher education?
- Is the institutional culture supportive of conversations, dialogues, etc.? What are the mechanisms to encourage conversational learning?
- Is the institutional culture supportive of volunteering activities?
- Does the university value social learning as a way to promote sustainability? Does the institution understand the role of social learning in sustainability?

#### **A7.10 LIST OF KEY DOCUMENTATION REVIEWED**

- Corporate Strategy 2009-2014: “Making Knowledge Work”
- Environmental Policy 2009
- Environmental Policy (previous)
- Equality and Diversity Policy: “Confronting Inequality: Celebrating Diversity”

- Learning, Teaching and Assessment Strategy 2005-2009
- Ecoversity Annual Report (2008-2009)
- Ecoversity News (website)
- Ecoversity Press releases (website)
- Ecoversity – Action Research (website)
- Ecoversity Tasks Groups (website)
- Ecoversity Brief Notes (website)
- Ecoversity Quarterly Newsletter (Issue 1) (website)
- The Seed (winter 08- autumn 09)
- Events Diary (website)
- Seminar series and workshops (2008-2010) (website)
- Annual teaching and learning Conference (2008)
- Energy Conference (9 February 2010)
- Ecoversity Conference (2008)
- The Big Green Guide (2009/2010)
- Sustainable Education Brief Note from School of Health Studies

## **APPENDIX 8 CONDUCTING THE RESEARCH AT THE UNIVERSITY OF BRISTOL**

### **A8.1 THE UNIVERSITY OF BRISTOL**

The University of Bristol was founded in 1876 as University College and received its Royal Charter in 1909. In 2008-2009, the University consisted of a community of 17,870 students and 5,809 members of staff recruited from all over the world. Defined as a research-intensive institution dedicated to academic achievement, the University of Bristol has explicitly committed to operate in a sustainable manner in its “Corporate Strategy” (2009-2016).

The University of Bristol offers a great number of courses for both undergraduate and postgraduate students. The University is formed by six faculties: Arts; Engineering; Medical and Veterinary Sciences; Medicine and Dentistry; Science; and, Social Sciences and Law. In total, there are 27 different Schools offering a wide range of specific courses. The University of Bristol is described as a research-focused institution, with more than one hundred different research centres and four doctoral training centres. All faculties and research centres are located in the main city campus except for the School of Veterinary Science which is fifteen miles South-West away of Bristol, in the village of Langford in North Somerset.

The University of Bristol was selected for this study because of its engagement in embedding sustainability across the institution. In 2007, the University of Bristol was the winner of the Times Higher Outstanding Contribution to Sustainable Development; was highly commended National Energy Efficiency Awards and winner of the Green Gown Award in the category of Courses; and, was highly commended in the category of “Energy and Water Efficiency.” The University of Bristol has been in positions 38, 26 and 32 in the People & Planet Green Table in the period of 2008-2010. As explained by BRIS-int4, sustainability has become an institutional priority over time. He pointed to various factors as key drivers to engaging in the sustainability agenda:

“The first is of course legislative [...]. It’s come secondly from individuals who have

led the way in their impersonal concern leading to discussions of how the organisation might do it [...]. It's come through our own research. There is of course then the economic driver [...]" (BRIS-int4, 9 September 2010)

Since its first developments in sustainability in the late 1980s, the University of Bristol and its sustainability department have mainly focused on estates projects to reduce the organisation's environmental impact. Some of these initiatives and the University's structures to address sustainability are outlined in the following table. However, later initiatives have also focused on raising awareness about sustainability issues across the institution. The sustainability department has organised a series of campaigns, events and initiatives to engage the University community in sustainability practice. Other individual departments and research groups at the University have contributed to advancing the sustainability agenda in the area of teaching and research.<sup>216</sup>

#### **Environmental and sustainability structures and initiatives at the University of Bristol**

<b>Years</b>	<b>Sustainability structures, management and activities</b>
<b>1980s</b>	<ul style="list-style-type: none"> <li>- Establishment of an Advisory Group on Energy Management which sought to reduce energy consumption at the institution.</li> <li>- Development of a number of energy saving schemes.</li> </ul>
<b>1990s</b>	<ul style="list-style-type: none"> <li>- Appointment of a full time energy manager.</li> <li>- Development of an energy guide for new buildings.</li> <li>- Development of an energy policy for the University.</li> <li>- Development of a Framework Policy for the Environment (1997) which included: purchasing; waste management; recycling; energy; transport; gardens and grounds; the built environment; and environmental education and health.</li> <li>- Establishment of a University Environmental Advisory Group (1997).</li> </ul>

<sup>216</sup> For example, in teaching, an innovative interdisciplinary module on sustainable development, UNIV10001, was created in 2005 in which all students from the University regardless of their course can enroll. This module received in 2007 the Times Higher Award. In research, The Cabot Institute is a world-class multidisciplinary institute for research on all aspects of global environmental change, from basic science and social science to technological and policy solutions. It brings together some of Bristol's most outstanding research – in natural hazards and risk, Bayesian statistics, uncertainty and decision-making, climate modelling, poverty, global insecurities and governance, and systems engineering. see: <http://www.bristol.ac.uk/cabot/>



	<ul style="list-style-type: none"> <li>- Appointment of an Environmental Coordinator to assist in the implementation of the new policy.</li> <li>- Establishment of Departmental Environmental Advisers (DEAs) who helped to build a picture of sustainability activities within the University and sought to influence the operations within departments. This group would then merge with the University Environmental Advisory Group.</li> <li>- Development of a great number of energy saving projects such as heating and lighting controls and other environmental initiatives such as a cardboard, paper and can recycling scheme.</li> </ul>
<b>2000-2010</b>	<ul style="list-style-type: none"> <li>- Establishment of the Energy and Environmental Management Unit (EEMU) which has recruited a growing number of staff since its launch in 2001.</li> <li>- In 2002, the Environmental Advisory and DEAs group was replaced by two new groups: (i) the Environmental Forum which acts as a consultative group focusing on the practical issues of implementing the Environmental Policy; and (ii) the Environmental Implementation Group (EIG) which reviewed the Environmental Policy and advised on its implementation.</li> <li>- In 2007, a new "Sustainability" policy was agreed by the University which sets new targets on sustainability.</li> <li>- In 2008, EIG was wound down and the University's Estates Committee took responsibility for sustainability. EEMU changed its name to Sustainability.</li> <li>- Development of a new carbon management plan (2009).</li> </ul>

## **A8.2 INFORMATION ABOUT KEY INFORMANTS AND CO-RESEARCHERS**

The following table presents important information about the key informant selected at the University of Bristol.

### **Information about the key informant**

<b>Key informant</b>	<b>Observations</b>
BRIS-ki1	- Support staff at the Sustainability Department.

The following table presents important information about the co-researchers selected at the University of Bristol.

### **Information about co-researchers**

<b>Co-</b>	<b>Role at the</b>	<b>Commitment to</b>	<b>Date of 1:1</b>	<b>Participation in the</b>	<b>No. of CMW</b>
------------	--------------------	----------------------	--------------------	-----------------------------	-------------------

<b>researchers</b>	<b>University</b>	<b>sustainability</b>	<b>meeting</b>	<b>research</b>	<b>sessions attended</b>
BRIS - c1	Support staff	Not committed to sustainability issues before joining the institution.	1 March 2010	Yes	3/3
BRIS - c2	Support staff	Not engaged in sustainability before starting to work at this institution.	1 March 2010	Yes	3/3
BRIS - c3	Academic researcher	Developed an understanding of sustainability when conducting the PhD research at this institution.	1 March 2010	Yes	3/3
BRIS - c4	Support staff/ administrator	Committed to sustainability before joining the institution.	2 March 2010	yes	3/3
BRIS - c5	Support staff	Committed to sustainability long time before joining the institution.	2 March 2010	Yes, but withdrew after before starting the research because other work commitments.	0/3
BRIS - c6	Support staff	Actively engaged in the sustainability agenda before joining the institution.	2 March 2010	Yes, but withdrew after before starting the research because other work commitments.	0/3
BRIS - c7	Academic researcher and senior manager	Had an understanding of sustainability issues before joining the University.	25 April 2010	Yes	3/3
BRIS-c8	Senior lecturer	Engaged in	29 April	No	0/3

		sustainability before joining the institution.	2010		
--	--	--	------	--	--

### A8.3 INFORMATION ABOUT COLLECTIVE MEMORY-WORK SESSIONS

The following table presents information on the collective memory-work sessions organised at the University of Bristol.

#### Collective memory-work sessions

Sessions	Date	Venue	Co-researchers who attended
<b>Session 1: Introduction</b>	11 May 2010, 11-12h	Meeting Room 2 (Old Park Hill), University of Bristol	BRIS-c1 BRIS-c2 BRIS-c3 BRIS-c4 BRIS-c7
<b>Writing stories I</b>	1-10 June 2010	Different venues	BRIS-c1 BRIS-c2 BRIS-c3 BRIS-c4 BRIS-c7
<b>Session 2: Collective analysis of stories I</b>	14 June 2010, 12.30-14.30h	Meeting Room 2 (Old Park Hill), University of Bristol	BRIS-c1 BRIS-c2 BRIS-c3 BRIS-c4 BRIS-c7
<b>Session 3: Collective analysis of stories II</b>	29 June 2010, 12-14h	Meeting Room 2 (Old Park Hill), University of Bristol	BRIS-c1 BRIS-c2 BRIS-c3 BRIS-c4 BRIS-c7

#### **A8.4 PROGRAMME OF COLLECTIVE MEMORY-WORK SESSIONS**

- *Programme for session 1: Introduction*

1. Introduction to this session
2. Ethical issues (recording + confidentiality + anonymity + withdrawal)
3. Quick introductions of co-researchers
4. My background and research interests
5. Research aims + methodology
6. Social learning for sustainability and institutional culture (poster)
7. Involving members of staff in the research: collective memory-work at the University of Bristol
8. Guidelines to write the learning story
9. Questions about the method
10. Information and Consent Form

- *Programme for session 2: Collective analysis of stories I*

1. Introduction to this session
2. Each co-researcher shares the learning story
3. 10-15 min discussion after each story

- *Programme for session 3: Collective analysis of stories I*

1. Introduction to this session
2. Each co-researcher shares the re-written learning story and explains why and how decided to change the story.
3. 10-15 min discussion after each story.
4. I share key issues arising from previous sessions with co-researchers and ask critical questions which need to be clarified.

## **A8.5 DOCUMENTATION GIVEN TO CO-RESEARCHERS**

- *Research summary attached to invitation email*

### THE RESEARCH

Higher education institutions play a vital role in achieving sustainability, contributing to it through education, research and operations, and providing learning for the decision-makers of the next generation. Higher education institutions not only provide research and policy in sustainability, but also create and facilitate environments for students and staff to learn and live sustainability. However, learning opportunities in sustainability are often thought to occur only in formal settings, i.e. facilitated by educators and teachers in a classroom. This thesis looks at the learning which occurs within the informal and social contexts of higher education institutions. This learning is often named “social learning”.

The research will be conducted at the University of Bristol and University of Bradford, and will seek to capture and document the lived experiences of staff (academic, administrative and support) that connect with social learning for sustainability in these institutions. This research will ultimately construct indicators of social learning which can help Higher Education Institutions assess their current contribution towards achieving sustainability.

### METHODOLOGY

The core technique used in this study is collective memory-work, which aims to encourage social learning when it is conducted. The research will involve a group of 8 participants in each higher education institution who will reflect on their stories about social learning for sustainability.

#### *WHAT DOES IT INVOLVE FOR PARTICIPANTS?*

Participants will be engaged in three different sessions between May and June 2010.

### Session 1: Introduction (approx. 1h)

Introduction to the research and methodology. Task: After the first session, you are asked to write a story about a learning experience (maximum 1 page).

### Session 2: Collective analysis of stories (approx. 2h)

The different stories are shared and discussed. Task: After this session, you are asked to re-write your story.

### Session 3: Collective analysis of stories (approx. 2h)

In this session, we will discuss the re-written stories and how social learning could be promoted at higher education institutions.

#### *HOW ARE THE ETHICAL ISSUES ADDRESSED?*

- The data gathered in the different sessions will only be used to conduct this research and will be destroyed after it is finished.
- Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results.
- If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason and without consequence.
- You will be able to sign a participant consent form where all these ethical issues are further explained.

#### *WHAT CAN YOU GAIN FROM BEING PART OF THIS PILOT STUDY?*

- The collective memory-group is intended to be a social learning process in itself. Thus, one of its objectives is that you take part in a learning experience which can be fruitful for your own work or simply for your own interest. You will have the opportunity to share your experiences and insights about sustainability within a group that has a common interest.

- Social learning for sustainability has not been explored a great deal in higher education institutions. By joining the group, you will be part of an exciting and innovative new area of research in sustainability.
- *Documentation given to co-researchers the first session of collective memory-work*

---

**.....Living and Learning Sustainability in Higher Education: Constructing Indicators of Social Learning**

**Session 1: Introduction**

Wednesday, 12 May 2010, 11-12h – Meeting room 2, 1-9 Old Park Hill, University of Bristol

---

**THIS RESEARCH**

***What are the aims of the study?***

- To seek a deeper understanding of how social learning for sustainability occurs in higher education institutions. The study focuses on experiences of academic, support and administrative members of staff.
- To explore the relationships which are likely to exist between social learning and institutional culture regarding sustainability.
- To construct indicators which can assist higher education institutions in assessing and improving their contribution to social learning in the attainment of sustainability.

***How does the study interpret social learning for sustainability? (poster)***

Social learning as defined by the study is the learning which occurs through social engagement or interaction within the university's sites and campuses.

- I define social interaction as the communication established between at least two people. Social interaction may happen casually, such as in an informal conversation,

or more formally, such as in meetings or networks.

- Social learning as defined by this study excludes the learning which takes place within formal educational settings and programmes of the university. For example, it excludes the learning taking place as a result of formal staff development courses or formal lectures. However, it takes into account the learning which takes place in seminars, conferences and events organised by the institution which are not part of a university's formal educational programme or plan.

### ***Why is it important?***

- Previous research undertaken in the area of sustainability in Higher Education has focused on:
  - campus management and ecological footprinting
  - embedding sustainability into the curriculum
  - policy analysis
- Although there has been substantial work in these areas, research in higher education has not contributed to understanding the relationship between learning and engagement for sustainability and institutional culture within higher education itself.
- This thesis opens a new field of investigation and innovation in education for sustainability and higher education.

### ***What methods will be used?***

- I am using a **case study approach** to capture **social learning experiences of staff** in the area of sustainability.
- I selected the **University of Gloucestershire** as a pilot study. The pilot study took place in May 2009 and informed the research planning and approach.
- I have selected the **University of Bristol** and the **University of Bradford** as the in-depth case studies.
- The three universities have been selected because of their explicit commitments to



sustainability as institutions. The institutions have also been recognised by the sector as leading examples of sustainability in Higher Education.

- I am using a wide range of research methods:
  - Collective memory-work
  - Interviews
  - Review of institutional documents
  - Key informant input and international advisory group

***How are you going to be involved?***

- I am interested in **collaborative** and **participative research** processes where members of staff can have a voice and the power to influence the findings of the study.
- I seek to involve you in a participative research process which consists of sharing and discussing your **stories** on social learning for sustainability as a basis to identify common institutional influences.

**COLLECTIVE MEMORY-WORK**

- Origins: feminist research method to explore female sexualisation.
- We will use the methods as a basis to identify common institutional influences in social learning.
- It breaks down the hierarchical relationship between the researcher and the researched. We are all co-researchers.

*Sessions and phases of collective memory-work in Bristol*

**1:1 INFORMAL MEETINGS**  
(March-April 2010)

**SESSION 1: Introduction**  
(Wednesday, 12 May 2010, 11-12h)

- Introduction to the research
- Introduction to collective memory- work
- Forming a collective memory-work group

**Task 1:** Each co-researcher writes a story

I will come to the University to help you in the process of deciding and writing your story.

**SESSION 2: Analysis of stories I**  
(Monday, 14 June 2010, 12.30 – 14.30h)

1. Sharing and analysing the stories with the group
2. Identifying common institutional influences

**Task 2:** Each co-researcher re-writes the first story

**SESSION 3: Story analysis II**  
(Tuesday, 29 June 2010, 12-14h)

**I will share the findings of the research with you.**

### **Next step - Writing a story: Procedures and rules**

#### **Task 1: Writing a story on social learning for sustainability**

##### **Guiding questions to writing the story:**

1. Do you recall any conversations or social situations which have influenced your thinking or commitment towards sustainability?
2. What was it about those social interactions that were key influences?
3. How much were these social interactions influenced by the institutional environment/culture?

##### **Rules for writing the story:**

Write the story in the third person (she/he) instead of the first person (I). You can use a pseudonym to identify yourself in the story.

Try to describe the moments in as much detail as possible including the trivial information.

### **Please contact me if you have any questions**

Email: imula@glos.ac.uk

Tel.: 01242 71 5394

## **A8.6 KEY QUESTIONS DISCUSSED IN SESSION 3 OF COLLECTIVE MEMORY-WORK**

### **Institutional culture**

**Researcher's reflection:** Social learning happens in the various sub-cultures of the institution.

**Q.** In what sub-cultures is it more likely to happen?

**Q.** Is there any sub-culture driving change in other sub-cultures or more powerful in creating cultural change towards sustainability?

**Researcher's reflection:** There is a need to create different windows/doorways for social learning to take place. A different range of opportunities for social learning should be created for the different type of values and identities co-existing in the institution.

**Q.** What different windows should be created?

### **Institutional focus regarding sustainability**

**Researcher's reflection:** It is important to create spaces where the real roots of sustainability can be explored.

**Q.** Could social learning assist in this task? What type of social learning?

### **Levels of interaction and engagement**

**Researcher's reflection:** Social learning is about encountering people from different worldviews and perspectives. However, staff (especially academics) tend to focus on their own projects and departments.

**Q.** What types of social learning initiatives which gather staff from different departments and disciplines could be promoted at the University of Bristol?

### **Institutional management and structures**

**Researcher's reflection:** It will be interesting to have some examples of how the senior and middle management could contribute to this agenda.

**Q.** What are some examples of social learning initiatives supported by senior management?

**Q.** How could middle management support social learning?

### **Physical space**

**Researcher's reflection:** For social learning to take place, social spaces are needed.

**Q.** What social spaces would co-researchers like to see in the university?

**Researcher's reflection:** There are already social spaces designed to spark research. It would be interesting to see what type of spaces co-researchers think would inspire learning, research, actions for sustainability.

**Q.** What type of spaces do you think would inspire learning, research, conversations, actions for sustainability?

### Links with the community

**Researcher's reflection:** The community plays an important role to influence the university regarding sustainability learning, research and management.

**Q.** What type of social learning initiatives with the community would be influential to take the sustainability agenda forward within the university?

### **Overall questions:**

**Q.** How do staff learn?

**Q.** What would an institution where social learning takes place all the time look like?

**Q.** What would happen in the institution?

### **A8.7 SAMPLE OF MEMO**

When: 14 June 2010
Location: University of Gloucestershire

<b>Decisions/reflections</b>
Bristol has been a surprise to me. At the very beginning I thought that it would be more difficult than Bradford and that the discussions would generate less data than Bradford. However, I was completely wrong. The group in Bristol is excellent. Everyone has participated very actively, always come to the sessions very punctual, worked on their both stories very seriously. The environment was very informal and people seemed to be very comfortable with each other (most of them did not know each other before).
The role of social space has been continuously discussed. Three of the re-written stories mentioned the important role of physical space.
As in Bradford, when I asked co-researchers to imagine a university where social learning is a daily reality, all of them imagined social spaces.
Co-researchers raised the issue of how difficult it is to measure social learning. At universities it seems that all the initiatives which are promoted are easy to measure. However, critical and meaningful issues such as social learning are sometimes disregarded.
Social events for the community tend to be good opportunities to gather staff from

different backgrounds and departments.
Senior and middle management support is essential to promote social learning processes which are already happening at the grassroots.
It will be interesting to investigate further social spaces at the University: frequency, staff who use these spaces, etc. A co-researcher questioned the reasons why senior management do not tend to use these spaces.
Co-researchers agreed that it is necessary to open different windows to promote social learning, so all sub-cultures can participate in social learning processes. Some co-researchers stated that a very powerful sub-culture in influencing cultural change is the support staff because they tend to interact with other departments. Thus, they can spread the word more easily. Students are also very powerful to drive change towards sustainability. However, many barriers and bureaucratic processes need to be broken down in order to enable the emergence of social learning processes.
<b>Reflections on methodology</b>
Everyone attended the meeting on time and sent me the story some days before. Only one co-researcher did not re-write the story.
It was really good that one co-researcher decided to change the focus of the story.
Participation was excellent and everyone contributed to the discussions at the same level.
It is clear to me that session 2 had an impact on the thinking of co-researchers. An interesting story which reflects this is from BRIS-c3
In my view, this session has been one of the most interesting ones in the whole research process, including the Bradford research.

#### **A8.8 LIST OF INTERVIEWEES**

The following table presents information about the interviewees selected at the University of Bristol.

##### **List of interviewees**

<b>Interviewee</b>	<b>Date of interview</b>	<b>Role at the University</b>
BRIS-int1	8 September 2010, 9.30-10.30h	- Support staff

BRIS-int2	8 September 2010, 9.30-10.30h	- Support staff
BRIS-int3	8 September 2010, 13-14h	- Researcher
BRIS-int4	9 September 2010 , 16.30-17h	-Senior manager
BRIS-int5	15 September 2010, 11-12h	- Researcher
BRIS-int6	15 September 2010, 12-12.30h	-Researcher
BRIS-int7	15 September 2010, 14-15h	-Support staff
BRIS-int8	22 September 2010, 10.30-11.30h	-Support staff

#### **A8.9 INTERVIEW TEMPLATE**

##### Sustainability at the University of Bristol

- Could you explain how sustainability has become a priority at the University of Bristol?
- How is sustainability approached at the University of Bristol?
- How has the university changed since it started its commitment to sustainability?
- How will the university look in the future?

##### Social learning in the area of sustainability at the University

- What type of social learning opportunities (eg., formal and informal events/seminars/ conferences) in the area of sustainability exist at the University of Bristol?
- What type of social learning opportunities could be promoted within the university (eg., online social networks)?
- Who facilitates social learning for sustainability at the University?

- Where are the places where social learning is more likely to happen?
- Could you identify any institutional barriers which constrict the emergence of social learning processes?

#### Institutional culture on social learning

- Could you identify different cultures at the university and the type of social learning that they tend to have (eg., academic culture – social learning to spark research activities)?
- Are there social learning opportunities where staff from different backgrounds and sub-cultures come together? How do you think this can help progress sustainability in higher education?
- Is the institutional culture supportive of conversations, dialogues, etc.? What are the mechanisms to encourage conversational learning?
- Is the institutional culture supportive of volunteering activities?
- Does the university value social learning as a way to promote sustainability? Does the institution understand the role of social learning in sustainability?

#### **A8.10 LIST OF KEY DOCUMENTATION REVIEWED**

Corporate Strategy 2009-2016

Policy and Strategy for Sustainability (2009-2016)

Draft Education Strategy (2009-2016)

Education Strategy (2004-2008)

Positive Working Environment Policy

Volunteering Strategy

Equality and Diversity Policy

History and structure of Sustainability at the University of Bristol

Benchmarking (Corporate Responsibility Index)

Built Environment and BREEAM

Education and awareness

Green Living Guide

Staff induction in Sustainability

10 ways to green your office and home this Christmas



15 simple ways to green your office

Environment week (2004 and 2002)

10:10 Campaign

Students involvement in Sustainability

Green Education Declaration

Green Impact (about the scheme)

## **APPENDIX 9 INDICATORS OF SOCIAL LEARNING FOR SUSTAINABILITY – FEEDBACK FROM RESEARCH PARTICIPANTS**

This appendix compiles the feedback received from research participants on the findings and indicators developed.

### **Email and documentation sent to co-researchers and key informants, 19 September**

**2011**

“Dear...,

I hope you had a wonderful summer.

As promised, in this email I attach two documents: (i) the indicators that I propose as a research outcome of my doctoral thesis; and, (ii) a brief summary of the findings of my research (please note that this is a very short summary and that the findings were drawn from both the University of Bradford and Bristol).

As mentioned in a previous email, I would be grateful if you could have a look at the indicators document and give me some feedback in order to validate them (the indicators have been developed taking into account the research findings). I would appreciate if you could tell me if they reflect the conversations, reflections and discussions that we had during the research sessions that took place in your university as part of my research. Please let me know if you think I am missing important points discussed in the sessions; if you find the indicators relevant or valuable to your institution; if you would suggest ways to improve them, etc.

This shouldn't take you long. I hope that less than half an hour. [...] I am submitting the thesis next week. Please could you send me the feedback as soon as possible (before 27 September 2011). I am really sorry for the short notice.

Looking forward to your feedback

Thanks again,

Ingrid”

### ***RESEARCH FINDINGS – SUMMARY (document attached)***

- *How and where opportunities for social learning for sustainability exist in higher education?*

- 1) My research suggests that social learning for sustainability in higher education institutions tends to occur through facilitated and unfacilitated processes.<sup>217</sup> The

---

<sup>217</sup> Please note that both facilitated and unfacilitated social learning are informal learning processes. Facilitated social learning includes those processes in which learning is explicitly designed. Unfacilitated social learning is a spontaneous process based on informal dialogues.

first includes staff participating in extra-curricular activities, partnerships and networks, multi-stakeholder dialogues, mentoring, or action and participatory research. The latter tends to occur as a spontaneous face-to-face process or through online social networks. Many times, face-to-face sustainability dialogues which are non-hierarchical, involve learning from each other, and occur within comfort zones, can shift thinking and actions of staff.

- 2) Research participants identify many different purposes of social learning for sustainability processes. These include: (i) exchange sustainability knowledge and best practice; (ii) bridge links between universities and their local community in the area of sustainability; (iii) bring staff from different backgrounds and disciplines together to discuss sustainability issues; (iv) build close relationships with colleagues in the area of sustainability; (v) improve work related activities in the area of sustainability; or, (vi) enhance sustainability in the university agendas.
- 3) Various outcomes from social learning for sustainability processes are identified by research participants. For example, the study suggests that this learning process has the potential to: (i) enhance innovation in research activities; (ii) ensure sustainability engagement at the institutional level; (iii) involve staff who are at different stages regarding their commitment to sustainability; and, (iv) influence the formal curriculum.
- 4) My research confirms that issues of participation and engagement of staff in social learning for sustainability, institutional communication, and critical reflection and facilitation are key influences of the quality of this learning process. The research demonstrates that active participation and co-learning, clear institutional communication and high levels of reflexivity enhance the quality of social learning for sustainability processes.
- 5) Finally, the research evidence indicates that physical space and academic contexts can influence the quality and frequency of social learning processes in

the area of sustainability. The lack of social spaces or a focus on research intensive cultures can limit the emergence of social learning for sustainability.

- *How can social learning for sustainability shift thinking and actions of staff, as identified by research participants?*

6) It is difficult to ascertain how social learning for sustainability can shift thinking and action of staff in the area of sustainability. This is because many other influences such as the broader culture or media also influence the ways staff think about or engage in sustainability issues.

7) Social learning experiences as described by co-researchers of collective memory-work which had a high impact on the ways staff engage in sustainability, primarily took place through the establishment of informal dialogues with other members of staff.

8) Learning from and with each other was a key component of the sustainability dialogues explained by co-researchers. As a feature of these dialogues it appears that hierarchical relationships were suppressed and therefore staff had the opportunity to negotiate meanings about sustainability.

9) The key role of social space was emphasised by co-researchers who acknowledged that the establishment of those critical dialogues would not have occurred if space had not been provided for interaction.

- *Is there a dialectical relationship between social learning and institutional culture for sustainability?*

10) Research participants acknowledged the great diversity of cultures and sub-cultures which a university embraces. The research acknowledges the importance of taking into account the diverse institutional identities and ways of socialisation in order to support social learning processes which are meaningful to all the institutional community.

- 11) In addition, the research also supports the value of social learning practices which involve staff from different cultures and perspectives in discussing issues related to sustainability.
- 12) The study reveals that social learning for sustainability is more likely to occur when institutions and departments (i) promote informal learning environments; (ii) encourage innovative teaching and learning; (iii) encourage a sense of familiarity; and, (iv) create social spaces for staff to meet informally.
- 13) Rituals and routines of departments, such as allocating time and social space for informal gatherings, encourage the emergence of social learning in an institution.
- 14) The research has identified that the universities studied tend to value social learning as a process which enhances and promotes sustainability. However, at the practice level, there are no mechanisms to support the implementation of this process at the institutional level.
- 15) The research has given evidence of how institutional cultures can influence the emergence of social learning processes in the area of sustainability. However, it states that it is still an early stage to confirm that social learning processes can influence institutional culture for sustainability.

***INDICATORS OF SOCIAL LEARNING FOR SUSTAINABILITY (document attached)***

In this document, I present a detailed set of questions/indicators for those institutions which are seeking to promote social learning for sustainability (see table 1). The self-assessment indicators aim to assess if and how social learning for sustainability is happening in a higher education institution and encourage further developments in this area. Table 1 presents the different areas of assessment, the indicators defined,

evidence which can help institutions meet the indicators, and a brief explanation of why the indicators defined are important.

**Table 1 Self-assessment indicators of social learning for sustainability**

<b>LEAD</b>		
<i>Is there leadership for social learning for sustainability?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Is there evidence that social learning for sustainability is <b>led</b> by the institution?	There is a team/member of staff with allocated responsibilities to overview the implementation and evaluation of social learning for sustainability.	My research has found that the higher education institutions studied value the role of social learning for sustainability. However, at the practice level, there is a lack of leadership in this area.
	Central budget and resources have been allocated to this team to support social learning for sustainability.	The institution can make a difference in this area if a senior champion, team, department or sponsor is identified in order to support this agenda. The funding and resources allocated will also ensure that opportunities for social learning for sustainability can be provided.
<b>EMBED</b>		
<i>Is social learning embedded within the institution?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Has the university <b>embedded</b> social learning within its structures and strategic plans?	The sustainability strategy includes social learning for sustainability	My research has identified that social learning for sustainability does not feature prominently within the strategic documentation of the higher education institutions studied.
	Learning and Teaching strategy(s) reflects on the importance of the role of social learning for sustainability.	The institution can make a difference in this area through including social learning for sustainability within the institutional structures and strategic plans. This is important in order to demonstrate the commitment of the institution to promote this type of learning. It also facilitates reviewing and monitoring progress in this area.
	A social learning for sustainability action plan is in place.	

<b>ENABLE</b>		
<i>Are there mechanisms in place to enable the emergence of social learning for sustainability?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Does the institutional culture <b>enable</b> social learning for sustainability through the allocation of appropriate social space?	<p>Social spaces exist which enable social interaction and learning for sustainability.</p> <p>These social spaces:</p> <ul style="list-style-type: none"> <li>- demonstrate principles of sustainability (eg., usage of environmentally preferable materials, natural ventilation, timers and temperature control, lighting sensors, etc.)</li> <li>- are informal and create friendly atmospheres. They are located near staff offices and departments to facilitate their access and usage.</li> <li>- avoid signs of hierarchy as they are not 'owned' by any faculty. They are university spaces open to all staff and students from different departments and faculties of the institution.</li> </ul>	<p>Social spaces have been identified by my research as key determinants of the quality and frequency of social learning for sustainability.</p> <p>Space has a big impact on what conversations, learning and socialisation takes place in a higher education institution. Social spaces also help to build a sense of community within the institution which is ultimately beneficial to break isolation barriers and enhance the social learning experience within the institution.</p>
	New builds and refurbishment plans contemplate the allocation of space with the characteristics outlined above.	
<b>SUPPORT</b>		
<i>Is social learning for sustainability taking place?</i>		
<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Are the social learning for sustainability opportunities <b>inclusive</b> of the different sub-cultures identified within the institution?	Provide examples of social learning for sustainability activities which target solely academic staff.	<p>My study has identified that the role, background and culture of staff influence the ways they participate and engage in social learning for sustainability.</p> <p>My study suggests that it is important to offer a wide range of social learning for sustainability opportunities in which different staff coming from different cultures and perspectives can engage in meaningful ways.</p>
	Provide examples of social learning for sustainability activities which target solely support staff.	
	Provide examples of social learning for sustainability activities which target solely administrative staff.	
	Provide examples of bespoke social learning for sustainability	

	opportunities which target 2/3 of the above (social learning opportunities bring staff from different sub-cultures and disciplines together).	
Does the institution provide a wide range of different <b>types</b> of social learning opportunities?	Provide examples of <b>events</b> where staff can share ideas and best practice (eg., conferences, seminars, outreach events).	<p>My study has identified that higher education institutions tend to provide social learning opportunities primarily through the organisation of events. The research demonstrates that, in some cases, management led events can restrict staff participation and engagement with sustainability issues.</p> <p>My research suggests that the social learning experience can be enhanced if the institution provides a great variety of opportunities in this area. The activities which involve co-learning and active participation are more likely to challenge staff assumptions and practices in the area of sustainability.</p>
	Provide examples of sustainability <b>campaigns</b> and <b>projects</b> which promote social interaction and collaborative work (eg., Green Impact Awards).	
	Provide examples of <b>volunteering opportunities</b> in the area of sustainability where staff can try new sustainability ideas in campus (eg., there is a volunteering policy granting staff at least one day's paid leave per year to undertake volunteering work).	
	Provide examples of staff groups or <b>communities of practice</b> where staff can influence change for sustainability at the institutional level (eg., allotment groups, sustainability task groups, sustainability committees, staff social clubs).	
	Provide examples of <b>mentoring</b> opportunities for staff to reflect deeply on their underlying assumptions and how these are embedded within their professional practice.	
	Provide examples of participatory and <b>action-research projects</b> which build capacity of staff and knowledge to influence change for sustainability.	
Do social learning for sustainability initiatives provide opportunities	Training sessions are available to build staff skills as facilitators of social learning for sustainability.	My research has identified that most of the social learning for sustainability opportunities provided in the universities studied promote single-loop learning, i.e. they may challenge staff practices, but fail to question
	Social learning for sustainability is facilitated by trained staff or	



for <i>critical reflection</i> ?	external persons.	underlying assumptions related to sustainability.  Institutions can provide second-loop social learning for sustainability ensuring that facilitators in this area exist. Facilitators can enhance critical reflection within social learning processes as well as dealing with participation and power relations.
	Reflections and lessons learned arising from social learning for sustainability sessions are captured.	

**IMPACT**  
*What is the impact and quality of social learning for sustainability?*

<b>Indicator</b>	<b>Evidence</b>	<b>Why is this indicator important?</b>
Is there a commitment by the institution to measuring the <i>impact</i> and <i>quality</i> of social learning for sustainability?	There is a review and reporting process in place to monitor social learning for sustainability.	The research has identified that not all the sustainability opportunities offered outside the formal curriculum can be considered as social learning experiences. Social learning for sustainability involves active participation of staff, co-learning, trust, promotion of diversity and pluralism of ideas and provides opportunities for staff to challenge their own areas of influence.  In this context, the institution is committed to reviewing and reporting on the quality of the different social learning for sustainability activities organised and ensuring that the resources allocated in this area are not wasted. Measuring the impact of social learning for sustainability is complex. However, it is important in order to draw lessons learned and improve the social learning experience in the area of sustainability within the institution.
	There is evidence on how staff have challenged practices (including their own) and engaged in change for sustainability as a result of social learning for sustainability.	
	Stories of institutional change for sustainability as a result of social learning processes have been captured.	

**Table 2 Benchmarking indicators of social learning for sustainability**

Area	Indicator	Evidence
<b>LEAD</b>	Is there evidence that the institution is providing leadership in the area of social learning for sustainability?	A senior manager, member of staff or university team is responsible to overview the implementation and evaluation of social learning for sustainability.
		Central budget and resources have been allocated to this team/member of staff to support social learning for sustainability.
<b>EMBED</b>	Is there evidence that social learning is embedded within the institutional culture and strategic plans?	The institutional strategic documentation (sustainability strategy, sustainability action plan, teaching and learning frameworks) explicitly references social learning for sustainability.
		An action plan of social learning for sustainability is in place.
<b>ENABLE</b>	Is there evidence that the institution provides social spaces for the emergence of social learning for sustainability?	Social spaces which follow sustainability principles (eg., usage of environmentally preferable materials, natural ventilation, timers and temperature control, lighting sensors, etc.) are available within the institution.
		New builds and refurbishment plans contemplate the allocation of space for social learning for sustainability.
<b>SUPPORT</b>	Is there evidence that the institution is offering a wide range of social learning for sustainability targeting staff with different roles, cultures and backgrounds?	The institution provides social learning for sustainability opportunities through the organisation of events, sustainability engagement activities and campaigns, volunteering, staff groups and communities of practice.
		There are social learning for sustainability opportunities targeting staff from different roles, cultures and backgrounds (eg., academic, support, administrative).
<b>IMPACT</b>	Is there evidence that the institution is measuring the impact and quality	There is a review and reporting process in place to monitor the impact and quality of social learning

	of social learning for sustainability?	for sustainability.
		There is evidence that staff have challenged their practice through participating in social learning for sustainability activities.

**Feedback from BRIS-c2, 20 September 2011**

“Hi Ingrid,

Your documents look fine to me, and seem to reflect well what we discussed. It is all fine and I don't have any further feedback for you! Well done for pulling all that together.

Regards.”

**Feedback from BRAD-c5, 20 September 2011**

“Hi Ingrid,

Very interesting.

One thing I would highlight is the negative impact that stress or anxiety has on the likelihood of social learning. Colleagues that are already 'at capacity' will feel that socialising is a luxury they cannot afford.”

“Dear Ingrid, I'm sorry I won't be able to feedback to you as I'm on leave from this afternoon until 4th October. I'm glad you're on track for your phd and will be interested in seeing your indicators anyway. All the best.”

**Feedback from BRIS-c3, 23 September 2011**

“Dear Ingrid,

These indicators appear very comprehensive to me. I have put down some comments below which came to mind when reading through the documents, but just let me know if you need any further information. For indicators where there are no comments, please assume that I agreed with all the points made.

It was great to meet you and I enjoyed taking part in this research. Hope to stay in touch in the future. Good luck with the new job and very best wishes for the future.

Best wishes.

Feedback on Indicators Document:

Introductory Paragraph:

- \* It may be useful in the introductory paragraph to define what is meant by 'social learning for sustainability' (e.g. what activities social learning includes/excludes).
- \* It appears from the rest of the document that you are focusing mainly on social learning opportunities for staff, rather than for students. Again, it may be useful to explicitly state this in the introduction.

Table 1: Self-Assessment Indicators

- \* "Evidence that social learning is led by institution" - Perhaps worth specifying that if there is a "team/member of staff with allocated responsibilities to overview the implementation and evaluation of social learning for sustainability," evidence must also exist that the team receives strong backing from the institution's board of governance, and that the team can demonstrate actions which have made a significant impact on social learning throughout the institution.
- \* "Are the social learning for sustainability opportunities inclusive of the different sub-cultures identified within the institution?" - Should % of activities targeting students be included as a category or are the indicators focused solely on staff?
- \* "Does the institution provide a wide range of different types of social learning opportunities?" - Perhaps also worth including sustainability related teaching initiatives involving staff from different faculties.

Although these form part of the formal teaching programme, they encourage social interaction both between staff and students from different departments (e.g. Bristol's cross-University Sustainable Development teaching unit). Also, you mention them to some extent, but it may be worth defining a separate category for social learning opportunities which either bring members of the local community onto campus or enable staff to travel and engage with the wider community outside of the campus. Personally, I believe public engagement activities can offer a very effective means of social learning.

Table 2: Benchmarking Indicators

- \* For "LEAD," same comments as first bullet under "Table 1" apply.

\* For "EMBED," it is perhaps also worth stating that evidence must exist that staff are aware of the "institutional strategic documentation (sustainability strategy, sustainability action plan, teaching and learning frameworks)" related to social learning for sustainability. Even if such documentation exists, it would be difficult to argue that social learning is embedded within an institution's culture unless there is evidence that staff are aware of this and it influences their actions."

**Feedback from BRAD-c7, 27 September 2011**

"Hi Ingrid, sorry this is the last day for your feedback, we have just finished the fresher's week, you have captured the use of the social space in Bradford for sustainable learning very well. I also think the research reflects the conversations and culture of Bradford University surrounding the social learning elements in particular structure, events and funding. It was pleasure taking part and I hope your research is met with the reward it deserves. Many thanks"

**Feedback from BRAD-c4, 26-27 September 2011**

"Hi Ingrid,

I had a hectic week the week I received your email and was on leave last week. Today, I have had to cover for a colleague at a meeting that she services and had to turn the notes around on the same day.

I will be leaving the office in the next ten minutes or so, so I will be unable to provide feedback today. If you would like me to do it in the morning for you, I am not only willing to do it for you but I have put some time aside in my diary. If it's too late, then I apologise for not being able to do this for you.

Please let me know at your earliest convenience if you would like my feedback, as I can get onto it first thing in the morning.

Many thanks."

"Hi [BRAD-c4],

I know you were on holidays as I received a message back when I sent you the email. I hope you had a wonderful time.

I'd love to receive some feedback. I am submitting on Friday, so I still have time to integrate your ideas in the text.

Many thanks. I really appreciate it.

Best wishes,

Ingrid"

"Hi Ingrid,

Many thanks for your positive response. My feedback is below: -

The reports produced by Ingrid contain no surprises for me at all. Within the University of Bradford, many of the observations are spot on. Whilst I cannot comment directly on curriculum issues from an academic point of view, the simple reason of sharing an office with the Ecoversity Officer leads me to believe that there are many programmes/modules related to sustainability.

There are numerous (though relatively infrequent) 'green' activities during the year, the next of which is at the end of next week. I enjoy going to these events and invariably learn something from each and every one of them. I also encourage my friends and family to recycle whatever they can, to the extent that I asked whether the empty bottles of beer were going to be recycled when I was on holiday last week.

With the departure of the University's Ecoversity Champion to pastures new at the end of the last academic year, at present I am not sure how and by whom this role has been filled.

Having said that, as a very recent example of sustainability by social interaction, yesterday in the men's cloakroom, I was drying my hands using the hot air hand dryer whilst talking to a colleague who was washing his hands. The tap had been left running by my colleague. All it took was a friendly reminder to turn the tap off (saving me the task of doing it for him, I should add) and another mini lesson was learnt informally.

I hope that's the kind of thing that you are after, Ingrid. If it is, then thanks very much. If not, please feel free to get back to me with an idea of how it can be changed so that it's more suitable for your purposes.

Thanks again for your time and patience with me throughout the duration of my participation in your project and nothing but very best wishes for future success in your new role.

LXXXVIII

Kindest regards”

“Hi [BRAD-c4],

Thank you very much for your feedback and comments. As always, it is really appreciated.

In order to validate the findings and indicators which I constructed, I would need to know if you think that these reflect the conversations and discussions we had in our meetings. Also, if you have time, could you tell me if you find the indicators relevant to the University of Bradford? Would they be useful to enhance the social learning experience within your institution?

Many thanks!

Ingrid”

“Hi Ingrid,

I have attached the files, my replies annotated within each box after each question. To answer your final question “Would they be useful to enhance the social learning experience within your institution?”, my feelings are that anything and everything to help social learning experience within the University, especially regarding sustainability, would be welcome.

I hope that’s all OK for you, Ingrid – you know how to find me if not!

Best regards”

#### **Feedback from BRIS-c4, 28 September 2011**

“OK here goes:

- I like the section headings (Lead, Embed etc).
- I like the point about social space - I agree that this is important

Hope those little bits are of some help - good luck!”