ANGLIA RUSKIN UNIVERSITY

**EMBEDDING SUSTAINABILITY WITHIN HIGHER EDUCATION: CURRENT COMMITMENTS, APPROACHES AND OUTCOMES IN HIGHER EDUCATIONAL INSTITUTIONS**

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# Abstract

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It is increasingly understood that (1) sustainability-related challenges must be urgently addressed, and (2) the role of the Higher Education sector is important in meeting such challenges. Education for Sustainability (EfS) aims to address our sustainability challenges by ensuring students gain the knowledge skills and values they need to take *action* to help create a sustainable future. However, to date, the typical approach of HEIs in tackling sustainability has almost completely been limited to information/knowledge provision (i.e. ‘Emancipatory’ approach). This is in stark contrast to a possible focus on action. Indeed, the influence of socio-psychological factors in translating knowledge to action for sustainability is commonly overlooked.

As such, I ask the following research question in this thesis: ‘To what extent are HEIs actually seeking to be a tool for enabling students’ actions for sustainability rather than raising awareness of sustainability and providing underpinning knowledge of the subject. In answering this question, I investigate four constituent aims covering: students responses to HEIs EfS approaches; University’s corporate commitment to EfS; the experiences of individuals with responsibility for implementing EfS (EfS leads) and the institutional landscape that those EfS leads are constrained/enabled by. This thesis involved a pragmatic mix of semi-structured interview, social media and documentary data, all of which were predominantly analysed via content and thematic analysis techniques.

I found that the attention being afforded to EfS across UK HEIs is limited in scale, both in terms of ambitions and outcomes. EfS implementation suffers from a lack of real management support and inappropriate approaches to enabling students’ actions for sustainability. Those HEIs who do report high number of students taking action for sustainability are (1) blending the Emancipatory and Instrumental approaches, with (2) students being active participants in the process, and (3) have high levels of management support.

To conclude: to address the issue of students’ (in)action for sustainability, the problem needs to be reconceptualised in a new way where the focus is shifted from knowledge/capacity-building to learners actual actions as outcomes. In reflecting on what is possible, I demonstrate in this thesis the value of interdisciplinary insights that innovatively connect the EfS and behavioural science literatures.

**Keywords**: Education for Sustainable Development; Education for Sustainability; sustainability; curriculum; strategic document; values; Higher Education; knowledge - attitude -action gap; behaviour change; action for sustainability; Emancipatory; Instrumental; United Kingdom

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# **PART I: Introduction, scene-setting, and research context**

# **Chapter 1 Introduction**

Education for Sustainability (EfS) – also often termed Education for Sustainable Development (ESD) – entails the integration of sustainability (or sustainable development) values, knowledge and skills to encourage changes in the behaviour of learners in all spheres of education and learning. In Higher Education (HE), its focus is on infusing EfS within the (core -formal classroom based learning, co- practical experience of what is taught in class, extra- activities not necessarily connected to class work) curriculum to develop graduates who can take action to contribute to the move towards a sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations (UNESCO, 2005). There are those however opposed to the EfS ideal, citing that it is values based, arguing the liberalism of Higher Education means neutrally enabling learners to question the world, however in the past, in giving credence to societal movements particularly democracy and ultimately citizenship education - it has became value laden (Mulcahy, 2009; Strand, 2010). Values are fundamental to changing attitudes and behaviours, although important in that sense, knowing what action to take and having the competences/skills to take the actions are also crucial (Sipos, 2008).

Education is linked, at least in part, as a root cause to many of the challenges to the complex environmental systems that provide support for all life on our planet, with the infusion of EfS in its curriculum seen as a means of addressing these issues (McKeown, 2002). Education as we know it today is so much centred on the production of mass human capital for the labour market, which is characterised by a narrow specialism focused curriculum (Robinson, 2019). The outcome of these economic activities includes the depletion of natural resources faster than can be replenished (industrial activities and over consumerism which the educated are linked as main contributors), leading to accelerating climate change, which in turn impacts on the health and wellbeing of society (McKeown, 2002; Vare and Scott, 2007). Hence an economic system which strives at the detriment of the environment and society, of which scientific evidence indicates if societies do not move towards a more sustainable pathway, we are heading towards the possibility of becoming extinct on Earth (IPCC 2001;2007;2014). This fundamental idea of growing human capital underlying education was not so at the beginning. Rather it was traditionally based on liberal ideals, its core purpose was the broadening of learners minds, where learners are empowered to be free thinkers who are very much in tune with self and the community at large. This is characterised by learners developing a philosophical habit of mind, where though they may specialise in one or more academic area, they are also exposed to knowledge from multiple disciples - which opens them up to the wholeness and interrelatedness of issues of life, and they furthermore engage in analysis and critical reflection on matters of human development (Ker, 1990). It was the post second world war response to industrial revolution, which led to the commercialisation of Higher Education and the shift to narrow specialism focused curriculums, where learners began to be schooled for economic functions rather than intellectual faculties. The threat to our existence, amongst other development challenges has led to calls to rethink these principles that currently drive the educational system which is seen as “*in fact if anything […] catastrophically ill-equipped for the world that we live in now”* (Robinson, 2019 np.; Sterling, 2014). The EfS ideal is put forward as a way of addressing this issue. It stresses a transformed higher educational system based on sustainability principles, where learners embrace self (both rational and affective/values aspect of being) and society (drawing on multiple disciplines to address the complex relationship between the economy, society and the environment), is the way forward. It fundamentally seeks to move education curriculum from the current focus on specialisation for economic returns, back to one that broadens minds, as “*a basic premise of education for sustainability is that just as there is a wholeness and interdependence to life in all its forms, so must there be a unity and wholeness to efforts to understand it and ensure its continuation. This calls for both interdisciplinary inquiry and action”* (UNESCO, 1997np).

But can education help enable society’s behaviour change? Well the United Nations General Assembly (UNGA) appear to believe this, as they dedicated the years 2005 to 2014 as a decade of Education for Sustainable Development (DESD), promoting the infusion of EfS in educational curriculum (UNESCO, 2005) and have subsequently committed to seventeen Sustainable Development Goals (SDGs, 2015) which includes an education target to ensure globally by 2030 all learners are enabled to take actions for sustainability (e.g. less use of natural resources and actions that contribute to global peace rather than war). The end of the Decade of Education for Sustainability report (UNESCO, 2014) however notes that although increased awareness of sustainability issues is observed amongst HEI students’, and there is a high level of pro-sustainability attitudes, attitudes are generally not translating to action.

The title of this thesis – ‘Embedding Education for Sustainability in Higher Education: current commitments, approaches and outcomes’ – attempts to immediately convey the message that enabling students’ *action* for sustainability is centred on an HEI’s commitment and approach to delivering EfS. If HEIs management do not infuse the principles of sustainability into their institutions’ visions, ethos, operations and practices, I argue herein that it is extremely unlikely that having effective EfS will follow. Although HEI management have repeatedly declared their commitment to embed EfS within their institutions, key EfS authors and reports (Sterling, 2015; UNESCO, 2014) do, however, stress that such transformations are yet to be seen within HEIs.

Institutional commitment to EfS to one side, the approach to EfS curriculum design is another crucial matter. There are two ways those responsible for students learning argue that EfS should be approached. On the one hand is the Emancipatory thinking which is vehemently opposed to prescriptive actions, rather promotes individuals freedom, focusing on capacity building to enable students critically engage with sustainability issues, and it is hoped - if the individual is personally willing - this will lead to pro-sustainability attitude and in turn pro-sustainability actions. While on the other hand is the Instrumental perspective , which those of Emancipatory perspective argue tends to be prescriptive, as they are focused on facilitating students’ behaviour change for sustainability. However, there is no empirical evidence available that provides insight on how students respond to these perspectives and, in particular, how these relate to students taking action for sustainability. While behaviour change agenda in Higher Education is unprecedented and under-researched, established behavioural sciences fields (including, psychology and sociology) on the other hand, prove facilitating actual action is crucial to behaviour change process. A vast array of empirical work show (Darnton and Horn, 2013) there are internal (cognitive and socio-psychological) and external (environmental constrains and conditions) factors that can hinder the translation of knowledge to a supportive attitude, as well as intermediate attitude to actual action. Of which effective behaviour change programmes in considering these factors, find values is fundamental to attitude formation and that overcoming the attitude action gap is largely by initiating and sustaining the new behaviour to enable it crystallise (Heeren et al., 2016; Kelly and Barker, 2016). However, Emancipatory perspective generally underlines Higher Education’s approach to curriculum design; seminal EfS researchers (Sipos, 2008; Sterling, 2012) note that HEIs traditionally tend to skirt around the issues of values, instead preferring to explicitly target ‘quality assurance’ and ‘skills’ to ethics and purpose. HEI EfS practitioners themselves have tended to focus on capacity-building, also having a core curriculum focus, underutilising the co and extra curriculum sphere which can be platforms to initiate and sustain students’ action for sustainability (Lipscombe, 2009; 2011; Thomashow, 2012).

With the reported widespread lack of engagement of students in sustainability action, authors stressing that HEIs lack commitment to EfS implementation and the literature review indicating there might be fundamental issues stemming from the approaches to EfS curriculum design, it begs the question of:

**To what extent are HEIs actually seeking to be a tool for enabling students’ actions for sustainability?**

*Thesis’ central research question*

Answering this central research question is a matter of examining/investigating the following four aims, which form the basis of the findings and discussion chapters, hence the core of this thesis:

**Aim 1:** Investigate to what extent strategic importance is being explicitly and publicly afforded to Education for Sustainability in HEIs.

*Addressed in Chapter 4*

**Aim 2:** Investigate HEI approaches to EfS and how they relate to the number of students engaged in taking action for sustainability.

*Addressed in Chapter 5*

**Aim 3:** Examine the contextual landscape in which HEIs are implementing EfS, in particular where and why individual actions, by students or EfS staff, are taking place.

*Addressed in Chapter 6*

**Aim 4:** Examine how students respond to the ‘Instrumental and Emancipatory’ approaches to EfS in relation to taking actions for sustainability.

*Addressed in Chapter 7*

These aims are largely addressed in the context of the UK HEI sector. The UK HEI sector is an especially interesting context to explore because across the globe, it ranks as having the highest number of students from all over the world attend and it is known to produce notable number of key societal influencers (including 55 Presidents/Prime ministers) (HEPI, 2015). Indeed, I especially note that no other research has empirically explored themes on HEIs EfS perspectives and the strategic importance afforded EfS in relation to enabling students’ actions for Sustainability, which I now explore here in the UK context.

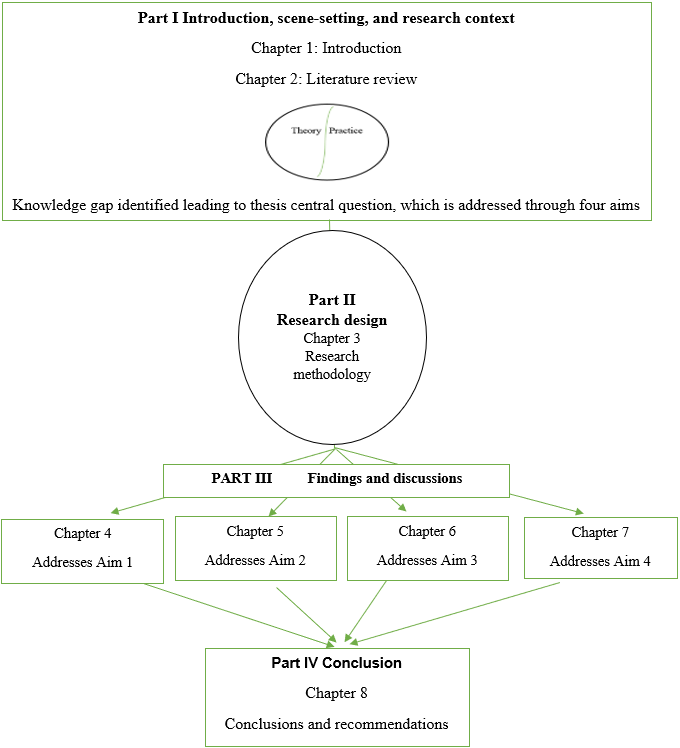


Figure 1.1. Outline of thesis structure and content

Figure 1.1 illustratively outlines the thesis structure and content, showing how its parts progressively build up to address the central research question. First, Part I includes this introductory chapter (Chapter 1) and the following chapter (Chapter 2) that contextualises the thesis within the relevant theoretical framework(s) and identifies the key gap in knowledge from which the aforementioned four Chapter aims (and central research question) are derived and justified. Second, Part II includes Chapter 3, which presents the research methodology that details how philosophically and practically data collection and data analysis approaches were organised, in addressing my research aims. In particular, Chapter 3 shows my Pragmatist philosophy of science led me to adopting a Critical Realist ontological/epistemological viewpoint for this thesis, as that best enables me to effectively answer my central question and its constituent aims. Third, Part III includes the four findings and discussion chapters (Chapters 4-7), each of which addresses one of the four aims. Finally, Part IV includes this thesis’ conclusions (Chapter 8), which draws on all preceding chapters – but, in particular, Chapters 4 – 7 – in directly answering the thesis’ central research question, as well as reiterating the key contributions of this thesis to knowledge and to HEI (EfS) policy debates. Furthermore, endeavouring to be thorough throughout this thesis, I have a detailed set of appendices containing key materials used in the data collection and also data spreadsheets from the research carried out.

The literature review Chapter and also one of the results Chapter (Chapter 5), to varying extent directly build on and reproduces part of the following previous publication:

Sule, O. F. and Greig, A. (2017) ‘Embedding Education for Sustainable Development (ESD) Within the Curriculum of UK Higher Educational Institutions (HEIs): Strategic Priorities’, in Leal Filho, W. (ed.) Sustainable Development Research at Universities in the United Kingdom Approaches, Methods and Projects. Springer International Publishing, pp. 91–107.

# **Chapter 2 Literature Review**

## **2.1 Introduction**

This chapter provides the background context to this thesis, specifically in terms of: the key sustainability problems at hand; the approach taken by the Higher Education sector in dealing with those challenges, particularly in the context of their past traditions and reasons for existing; the current insights available from the Education for Sustainability (EfS) literature; how progress could be enhanced by shifting towards a high education EfS agenda that is more action-focused; and what all this means drawing upon novel behavioural science perspectives that have not yet been embraced by EfS scholars and practitioners.

Based on this background context, I finish this chapter by presenting this thesis’ central research question (which cuts across this whole thesis) and its four constituent aims (which organise my four-core finding and discussion chapters, and ultimately help me to answer the central research question). This question and these aims are grounded in the knowledge gaps identified from the nexus of behaviour change theories, models of change, and EfS core principles and features (compared with EfS practice).

## **2.2 Higher education: from educational initiatives to a behaviour change agenda**

This section is made up of two subsections; subsection 2.2.1 specifically relates to Higher Education journey, in terms of its origin and evolving purpose since the 4th century BC to present call for it to transform itself to produce sustainability graduates; and in subsection 2.2.2, the background to this call for sustainability graduates is elaborated upon with the current known outcome.

### ***2.2.1. Reflections on the journey of Higher Education: origins and evolving purposes***

Higher Education is post-secondary school education where higher forms of learning takes place (UCAS, 2018), and since its inception, access to it and its core influencers have evolved. Records indicate the earliest two universities came into existence around the 4th century BC. One was situated in India and the other Greece, but both did not survive their times due to wars. The 1088 AD onwards saw the emergence of another set of universities in Europe and the United states of America (such as Paris, Harvard and Cambridge) and slowly but steadily the inception of more universities to every nock and corner of the earth as we see around the world today (Viswanathan, 2013).Universities in the ancient and medieval eras were primarily accessible to a privileged few (mainly Priests, Royals and the rich), but today is much more opened to everyone. Globalisation has seen people flocking to learning centres even in countries quite a far distant from their home. The purpose of higher learning centres has evolved from the ancient and medieval times, to this current modern-day era.History shows the influence of the initial primary dominance by the church and royals to governments in present times. Initially, degrees were inferred by the church alone until this right was given to University of Paris around the 13th century, which has evolved into the current form. Overtime, as the world developed, and economic activities increased, so did the desire suitably qualified workers. For instance, universities began the standardisation of their approaches to education on a large-scale after the second world war economic boom, in response to demands from corporations (Viswanathan, 2013). For more than two decades now, however, “*higher education worldwide has moved from the periphery to the centre of governmental agendas*. *Universities are now seen as crucial national assets in addressing many policy priorities”* (Boulton, 2009 np.).

Aside from governments though, there are also other external influencers at present, including funders, quality agencies (Universities UK, 2012) and, most notably and increasingly influential now in countries like the UK, students. The decisions of would-be students about which course they will select and which HEI they will attend are affected by many factors, but recently in the UK, with the changes in government funding model, students want to get value for the money they pay for their fees (Department for Business, Innovation and Skills, 2011). There is therefore an indication here that as HEIs make efforts to attract prospective students, HEIs may be making key changes to how they organise themselves structurally, how they fundamentally operate, and ultimately how they ‘education’ their students – all in a bid to make themselves more marketable.

In the context of this changes and reasons for changing, I now note two particular sets of calls aimed at influencing the core purpose of Higher Education in its journey so far. Prior to the industrial revolution, Higher Education prided itself for having liberalism at the core of their educational agenda. Liberalism in education may have many definitions, it promotes critical thinking, encourages the acknowledgement of diversity in opinions/views (Nussbaum, 1997) and *“perhaps common to most of them is the view that persons are, in their default state, entitled to make choices about how they act and live in the world [and] any circumstances that press against recognition of this quality are taken to be directly* opposed to it” (Thompson, 2017 p.9). The idea is fundamentally grounded on “*the central human questions: Who am I? Why am I here? What is my responsibility to God, to other individuals, to the community? What is true? What is good? What is beautiful?”*. With its “*processes and goals […] based on the values of objectivity and rationality”* (Lyons, 2015 p.ii). It is a concept aimed to enable learners develop a philosophical habit of mind, characterized by drawing on (interrelated) knowledge from multiple disciples. As Ker (1990 p.4-10) emphasise, this is done through focusing on the ability to engage in analysis and critical reflection. However, education has been shifting to suit the evolving purpose that society sees fit for it over the years, with particular point in time being the beginning of the second quarter of the 18th century -the industrial revolution era- which brought significant changes and began to shape the form of education as it widely is today. The post second world war exponential growth of businesses leading to increasing demand for graduates with specific skill sets and knowledge, which HEIs were responsive to. Hence, education and its flexible liberal principles now a tool for bringing about change, innovation, employment and economic success. In the process of which, education became regarded as central to economic growth by governments(Lyons, 2015). While since the 1970s, it is well recorded that many educational initiatives have been introduced in Higher Education (Flaherty and Liddy, 2018), including those which encourage HEIs to produce graduates that understand development issues (development education - Flaherty and Liddy, 2018), that are multiculturally sensitised (Burnett and McArdle, 2011), socially and ethically responsible (Kemp, 2017), and can address ecological/environmental problems(Environmental education - Chrysanthi and Evagelos, 2018), it is being called to serve another function which is to enable the sustainability of the Earth, through an Education for Sustainability agenda (EfS) (UNESCO, 2005). Compared with preceding educational initiatives highlighted above – which are considered as add-on to educational programmes – the EfS agenda is a clear contrast: here, EfS is somewhat of worldview through which such other initiatives should be viewed. Indeed, the EfS concept promotes a balanced view of the environment and socio-economic activities. That is, HEIs are now being looked to, to shift mind-sets and ways of thinking, to *“empower learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting [issues like] cultural diversity”* (UNESCO, 2017. p.9)*.* This government-backed vision of EfS seeks a radical transformation of education, as at its core is a behaviour change agenda.

On the basis of this recent call to infuse EfS in Higher Education, the next two sub-sections (sub-section 2.2.2 and 2.2.3) discusses the background to the EfS concept and the perspective with which HEIs are approaching it.

***2.2.2 Background to concept: Education for Sustainability***

“*A bold new agenda is emerging to transform the world to better meet human needs and the requirements of economic transformation, while protecting the environment, ensuring peace and realizing human rights. At the core of this agenda is sustainable development, which must become a living reality for every person on the planet”.* (United Nations Million Development Goals, 2015 p.9)

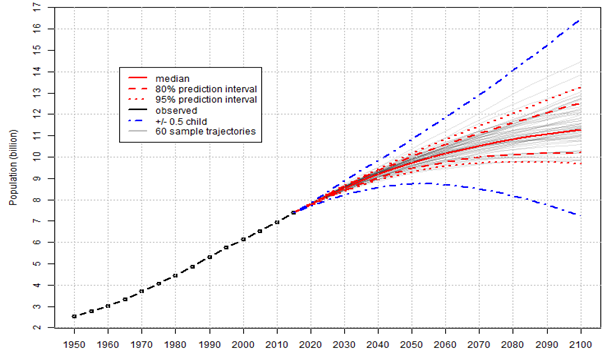
EfS has emerged from global sustainability challenges, which at its core has come from the exponential growth in human population growth (Figure 2.1) and also the rising living standards of those populations, which has led to greater pressures on production and consumption systems (Parkin et al., 2004). Our Common Future of 1987, also referred to as the Brundtland Report published by the World Commission on Environment and Development (WCED), captures a wide consultation of deliberations on the increasing need to tackle unsustainable practices of mankind which are leading to global issues including ecological degradation, climate change, deforestation and increasing poverty levels (WCED, 1987). This WCED report emphasises that these issues are multifaceted and intricately linked and are threatening the survival of current and future generations. A key point here is that the current economic framework is operating at the detriment of the environment and society at large and is thus the major cause of these sustainability challenges (Parkin et al, 2004). The nature of this relationship – between the economy, environment and society – is complex, but below I put forward a few examples of how they interrelate:

1) The polluting of the environment through economic industrial activities (e.g. organic solvents, respirable particles, sulphur dioxide and nitrogen oxides) are linked to public health issues and environmental challenges which includes climate change, the greenhouse effect, ozone hole and increasing desertification;

2) Through economic activities, natural resources are being depleted faster than they can be replenished, leading to the extinction of vital economic capitals;

3) The encroachment on more virgin lands and continuing destruction of the natural habitat of diverse species are leading to their extinction, causing ecological problems;

4) Pursuit of economic gain leading to wars, has implication for the environment (environmental destruction), people (hunger, health issues due to limited or no access to health care, loss of life, loss of property, increasing poverty levels), and in some cases become counterproductive for the economy (mass in flock of migrants).



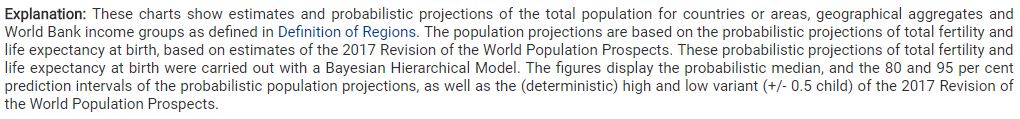


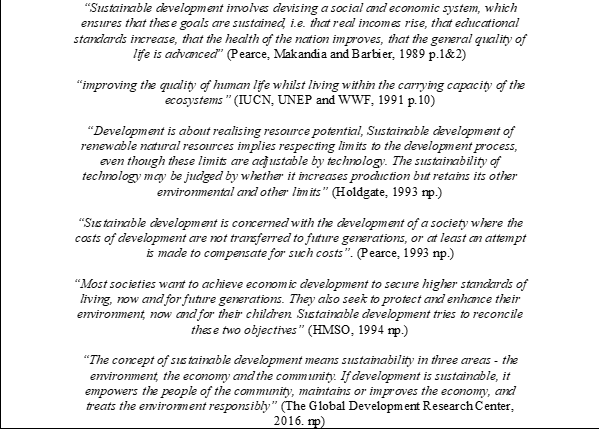
Figure 2.1. Past and projected total world population, 1950-2100 (United Nations Department of Economics and Social Affairs, 2017)

Through the WCED report (1987 p.5-7) “*a global agenda for change*" was born, which emphasises “*the "environment" is where we all live; and "development" is what we all do in attempting to improve our lot within that abode. The two are inseparable”*. The WCED (1987) stresses the need for sustainability/sustainable development, stating there must be a shift in humans’ perception to accommodate a balanced view of how not only economic but also environmental considerations interplay with each other to foster a healthy human existence (Lipscombe, 2008). Their interconnectivity has been portrayed by the three-legged model in Figure 2.2 which depicts the basic relationship and interconnectivity between the three pillars of development. The Russian dolls model (Levett, 1998; Lipscombe, 2008) however in Figure 2.3 has the benefit of showing their interdependency (which the three pillars stool model failed to address), that is, the economic system stems from the social system which is dependent on the environmental system in general.

Figure 2.2. The three pillars or legged stool (Source: Adapted from Lipscombe, 2008)

Figure 2.3. The Russian Dolls Model (Source: Adapted from Lipscombe, 2008)

Sustainability/sustainable development is difficult to define, which has in part contributed to it being open to various criticisms. Sustainability – although often used interchangeably with sustainable development (SD) – is viewed as the ‘goal’ of human-ecosystem equilibrium, while SD is the approach and processes for achieving sustainability in development contexts (IUCN, UNEP and WWF, 1991). O'Riorden (1985) describes writers’ difficulty in defining sustainability as like an exploration into a tangled conceptual jungle where watchful eyes lurk at every bend, arguably resulting in 'the remarkable number of books, chapters and papers, on sustainability having no definition of the term. The most popular sustainability definition – albeit referred to as sustainable development - is considered by many as vague- is that put forward in the 1987 Brundtland report (WCED, 1987 p.41), which defines it as “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*”. Other definitions -still referred to as sustainable development -tend to focus on the process, a few of which are in box 2.1; at their very core, they do not deviate from the original definition provided in the Brundtland report (WCED, 1987) as they reiterate the sustainability goal as about improving the quality of life for the world’s people and that of the future generations to come. But while the Brundtland definition can be said to solely propose a goal, that is, ‘the global vison of sustainability’, these other definitions appear to state ways this goal can be achieved, that is, the pathway for sustainable development; though having different emphasis depending on their particular interests, the common thread through these definitions are achieving sustainability through respect for environmental limits and through economic viability. In fact, governments are encouraged to outline their national concerns and implement activities which should be of local environmental, social and economic relevance and culturally appropriate (United Nations, 2015). Hence, sustainable development may take various forms around the world (UNESCO, 2005; 2010). Perhaps more needs to be done to emphasis the difference between sustainability as the goal and the pluralistic nature of sustainable development, so it becomes obvious that there is no need for one universal definition of sustainable development, as the concept is heavily reliant upon local contexts, needs and interests, and as the world changes, it will be evolving as we learn to grasp the wide implications for all aspects of life.

Box 2.1. Sustainable development and sustainability definitions

There are those who question the objectives of the sustainability agenda. Beckerman (2003) argues that sustainability may pose as a hindrance and set unrealistic boundaries to economic advancements and human developments respectively. Sustainability also faces some stiff opposition by core environmentalist who view it as being too closely linked with the humanities and economic advancements (Dresner, 2002). It is furthermore viewed as a mechanism for neo-colonialism (Banerjee, 2003) where the more advanced societies tend to maintain subtle influence or control over less developed nations (such as, former dependencies) through economic, political, or cultural pressures. Another school of thought further view sustainability as more akin to a political notion like democracy which are based on popularly accepted ideas but easily contested when put in practice (Jacobs, 1999). These criticisms and diverging views notwithstanding, most agree on and share a common ground where human development can proceed without causing damage to the environment, that is to say the long-term implications of short-term actions (Cullingford, 2004); of which such priorities has implications for Higher Education, in that it is viewed as having a potential role in addressing societal issues (The National Centre for Public Policy and Higher Education, 2008).

Mitigating further ecological deterioration, fostering a socially just world and creating viable economies, has seen world leaders agreeing to the common goals (Figure 2.4), at the UN general assembly, which require them to apply sustainability principles at all levels within their various Nations (Wilson, 2014). There are two sets of common goals that governments have agreed to, the first sets they addressed ran from 2000 to 2014 and was termed the Millennium development goals (2015), while their successor the Sustainable development goals (2015) runs from 2015 to the year 2030. As presented in Figure 2.4, these goals cut across the economic, social and environmental aspects of sustainability. Achieving these sustainability goals require engendering changes in business (e.g. responsible production, providing decent work and environmentally responsible) and individuals’ behaviour (e.g. less consumption and waste, purchasing from only environmentally friendly and socially responsible organisations) and importantly, a skilled workforce to help drive changes at all levels. Hence, governments stressed the important role of EfS (called education for sustainable development [ESD] mostly within the context of the developing world) can play in reorienting the world’s populace towards a sustainable pathway.

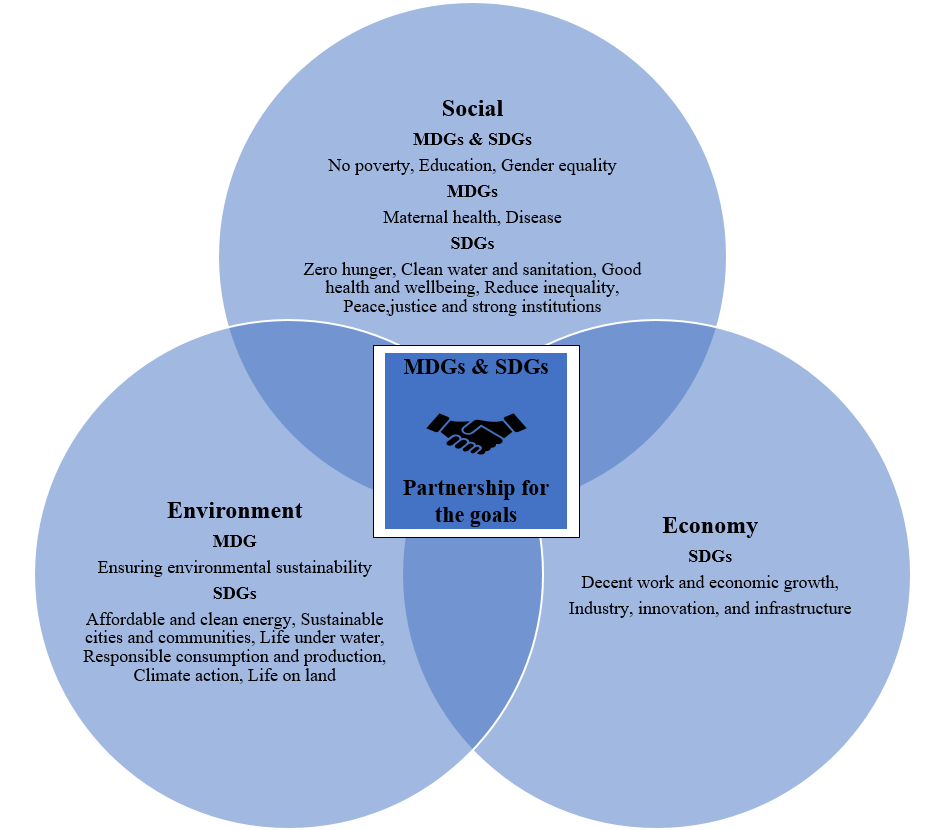


Figure 2.4. Common global sustainable development priorities of world leaders’ (Adapted from Millennium development goals, 2000; Sustainable development goals 2015)

The vital role of education in attaining sustainability has long been recognised on the world stage. A whole chapter (Chapter 36) of Agenda 21 (United Nations, 1992) presented at the first United Nations Conference on Environment and Development (The ‘Rio’ Earth Summit) was dedicated to promoting education, public awareness and training’, and at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, where leaders reaffirmed their commitment to developing sustainably, they consensually agreed that its implementation was a major challenge and the importance of Education for Sustainability was emphasised. Notable actions on this as the timeline in Figure 2.5 shows are; Education featuring as a part their common sustainability goals (MDGs 2000 -2015; SDGs 2015 -2030) with EfS - for example in the SDGs - as one of its global targets (SDG 4.7) alongside another nine quality/assess to education targets (SDG 4.1-6,8-10). The UN general assembly declared a decade of Education for Sustainable Development (DESD 2005-2014), and post the DESD a Global Action Programme (GAP, 2015 -2030). Hence, education is seen as a tool for the re-orientation of the world’s populace towards a more sustainable future and vital to assisting nations make progress on their sustainable development goals ‘through the integration of the principles, values and practices of sustainability in all aspects of education and learning’ (UNESCO, 2017). The United Nations Education Social and Cultural Organisation (UNESCO) the lead agency for the DESD and GAP promotes Education for Sustainability (EfS) in formal and informal education and publishes international implementation plans (2005, 2015) which nations are to tailor to their own peculiar needs.

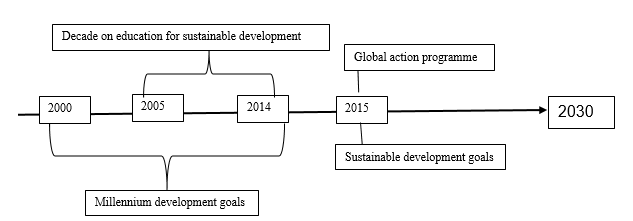


Figure 2.5. Global Education for Sustainability notable timeline

During the DESD which ended in 2014, Higher Educational Institutions (HEIs) faced a wave of pressure, driven by national and international policy and the apparent environmental, economic and societal challenges, to incorporate EfS into their curriculum for students to develop the knowledge, skills and values necessarily for the shift towards a sustainable pathway (Martin et al., 2014), which the ongoing GAP (2015) continues to drive. EfS calls for Higher Education to transform from the “*current education system* [which is knowledge and skills focused to meet the demands of businesses (see 2.2.1)], as it *“is failing to prepare students for the intricacies and challenges of the twenty-ﬁrst century and is in fact creating graduates who go into society living and promoting highly unsustainable ways of living*” (Fiselier and Longhurst, 2017 p.394). Hence, HEIs are being looked to, to through the transformation of their teaching and research reorientate the 15 million students who annually attend their institutions of higher learning, including a disproportionate number who go on to become future world leaders, inventors, employers and employees. Further to this, HEIs as key actors within their communities, are encouraged to act as sustainability role models and solution finders through their research, business/campus operations and community engagement (HEFCE in Sustainable Development in Higher Education, 2014). For these core reasons, HEIs are seen as vital to enabling sustainability (Johnson, 2007; UNESCO 2014). The main aim within the DESD in HEIs was better quality in the delivering of EfS teaching and learning, while building on the successes and lessons learned from the DESD, the GAP promotes a whole-institution/integrative approach; where institutions integrate their institution wide sustainability efforts (curriculum and research, campus and community) to foster effective EfS.

The end of DESD report, while noting that efforts to embed EfS in Higher Education curriculum increased globally within the decade and that there is now a high level of awareness and pro-sustainability attitude amongst students, however it also highlighted concerns that students’ attitude are generally not translating to actual action (UNESCO, 2014). The report (UNESCO, 2014 p.119) does not state the reason why students attitude are not translating to action but stresses that research into why a student will take action is an important area to explore, however even after years of researching the area some researchers (e.g. Gericke et al., 2014; Michalos et al., 2009; 2011; 2012; 2014) appear not to understand the reason for this discrepancy, as Michalos et al., (2014 p.324) puts it, we are “*far from having a complete explanation of why some students behave in ways that are favourable to sustainable development and others do not*”.

**2.****3 Enabling behaviour change: behavioural sciences**

The behaviour change agenda within Higher Education is relatively new, compared to established behavioural sciences fields. Hence, with no research having specifically addressed the question of why students’ attitudes are not translating to actual action across the HEI sector through curriculum efforts, I now carry out an in-depth multidisciplinary review of behavioural sciences literatures (including those relating to socio-psychological disciplines) in this section, to gain insight into the reason for this discrepancy, with which to scrutinise EfS literatures in the following section.

The field of human behaviour has been widely studied in disciplines including psychology which branching out from philosophy in the early 18th century (Carlson and Heth, 2010), has through a floral of empirical work, produced key theories to portray the factors that influence human behaviour change and models on how change can be achieved, we now look at these in the two subsections here.

### ***2.3.1 Factors that influence behaviour change***

Findings from behavioural sciencesshows gaps between knowledge and attitude, and attitude and action, which researchers attribute to cognitive and socio-psychological factors that can influence the process from the uptake of information, through to taking the desired action (Darnton and Horne, 2013) as Figure 2.6 illustrates based on these models.

Giving people information on (and thereby increasing their knowledge about) an issue in most cases does not translate to action. According to cognitive psychologists, humans process information by means of their social and psychological schemas, which are mental structures or mental representation of the world, by which humans organise knowledge or categorise information (Piaget, 1974). People are more likely to notice things that fit into their internal, personalized, intuitive and contextual understanding of how something works, while re-interpreting contradictions to schemas as exceptions or distorting them to fit, or schemas may remain unchanged, even in the face of such contradictory information (O’Sullivan and Durso, 1984; Kearney and Kaplan, 1997). Hence, how people process information can hinder the uptake of new information, influences how they interpret information, how they make decisions and their actions. This of course is critical to understand in the context of Higher Education and EfS, whereby the sole focus is indeed on information/knowledge transfer to students. Research indicates that even with the uptake of information, people may not necessarily change their behaviours. Kaiser and Fuhrer (2003) (also see van der Linden, 2014), explain this may be due to the type of knowledge available as there are different forms (declarative-factual knowledge; procedural - knowledge of appropriate courses of action; effectiveness - knowledge of how effective each course of action is) and they most all converge to foster behaviour change. Some studies such as Hines et al., 1986; Meinhold and Malkus, 2005; Bamberg and Moser, 2007 which took into consideration the degree of knowledge and psychological factors find a strong correlation between knowledge and behaviour change, however, wider empirical evidence leads to the conclusion that while it is certainly true that knowledge is necessary it is not a sufficient factor for behavioural change, as it is mediated by cognitive and psychological factors (van der Linden, 2014).

Knowledge translating to action is mediated by attitude which fundamentally stems from values, and then attitude to action tends to be intermediated by other factors (Darnton, 2008). Knowledge plays a role in attitude formation in that when individuals process information (which tend to have been subject to issues of cognition discussed in preceding paragraph), they weigh beliefs about a behaviour they are being asked to take with the values they attach to those characteristics, the result of this, influences attitudes – this is according to social-psychological models of behaviour from the simplest form ‘the Expectancy Value’ (EV) model, to the most complex and most notable ones including Fishbein and Ajzen’s Theory of Reasoned Action (TRA, 1975) and Ajzen’s Theory of Planned Behaviour (TPB, 1986). Fishbein and these notable models also go further to show intention and perceived behavioural control (how an individual perceives a behaviour – if the behaviour is deemed impossible, the individual will not take the action) as intermediating attitude and action; Ajzen’s Theory of Reasoned Action (TRA, 1975) shows subjective norms which is the normative beliefs of how others would view performance of a behaviour and self-motivations to comply with the evaluative beliefs about the consequences of the behaviour, influencing ones’ intention to act. Ajzen’s Theory of Planned Behaviour (TPB, 1986) portray ‘perceived behavioural control (PBC)’ as bypassing intention to be more of a determinant of action. Although models like Fishbein and Ajzen’s Theory of Reasoned Action (TRA 1975) and Ajzen’s Theory of Planned Behaviour (TPB, 1986) were greatly credited for their ability to better predict behaviour (Hale *et al.*, 2002), they are however not without criticism, particularly for not accounting for humans’ irrational tendencies. Writers such as Sheppard *et al*. (1988), Langer (1989), Bentler and Speckart, (1979) argue Fishbein factors in predicting behavioural outcomes (Darnton, 2008) and Ajzen’s models seem to work mainly in controlled environments, are limited in

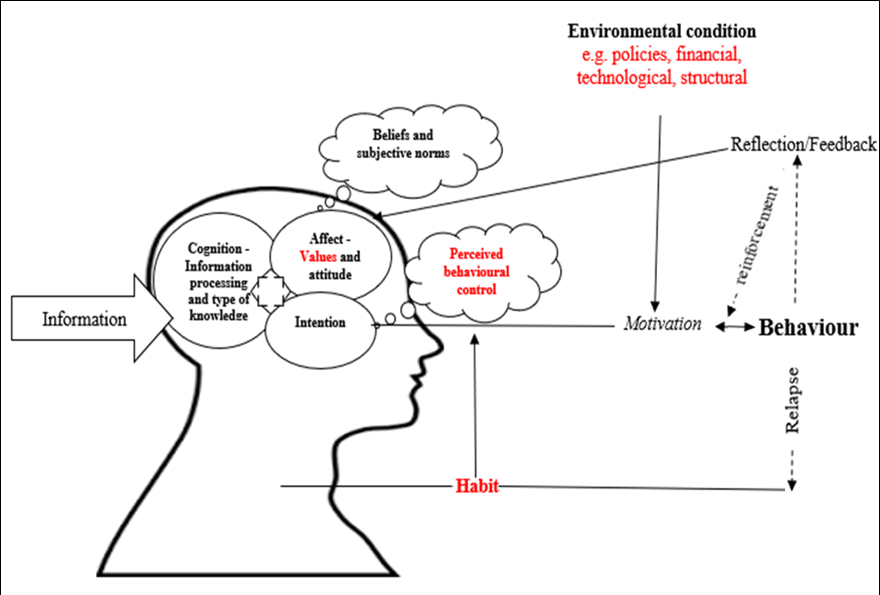


Figure 2.6. Factors that can influence the behaviour change process

scope and account only for rational behaviour. Subsequently, further behaviour change studies saw the introduction of affective emotional response, involuntary habitual (behavior that is frequently performed and has acquired a high degree of automaticity) and environmental contextual factors in predicting behavioural outcomes (Darnton, 2008). In Triandis’ (1977) Theory of Interpersonal Behaviour (TIB), not only attitude, but also affective emotional response influences intention; although Loewenstein *et al.*’s Risk as Feelings Model (2001) shows affect can also directly influence behaviour without being mediated by intention. Hence, these behavioural models indicate deliberative cognitive/rational/voluntary factors – intention and perceived behavioural control, and irrationals/involuntary factors - affect/emotions and habit, - are factors that tend to mediate attitude and behaviour, which are also moderated by environmental conditions and constrains.

Environmental conditions are external factors typically out of the individuals control such as social structures and policies, as individuals’ behaviour are deeply rooted in social and institutional contexts. That is, factors that influence individuals’ action are not only internal but are also external as portrayed in Figure 2.7; there is the individual context which raises issues of internal factors like values and attitude, and then beyond the individual are external factors in the social and material context within which they operate/live which can enable or hinder their ability to change their behaviours.

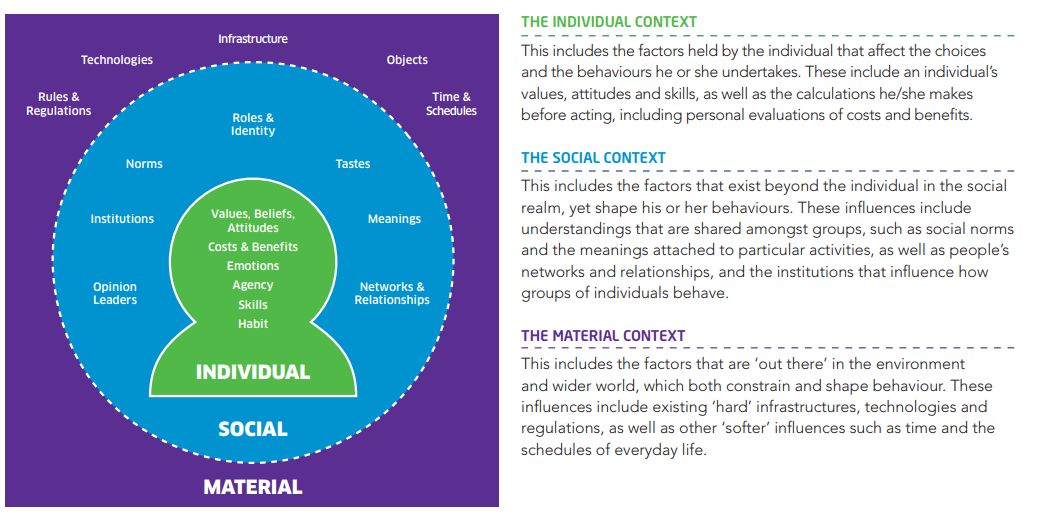


Figure 2.7. Factors that influence behaviour within context- the ISM model (Darnton and Horn, 2013 p.4)

In summary, these models of behaviour which are backed by a floral of empirical findings indicate the assumption of a linear progression from knowledge to a favourable change in attitude and in turn changes in behaviour which is coined the Knowledge-Attitude-Behaviour (KAB) model, is widely acknowledged as fallible (Blake, 1999; Armitage and Connor, 2001; Kollmuss and Agyeman, 2002; van der Linden, 2014). Rather, the literatures show that giving people information or knowledge about a thing largely do not translate to action, as there are gaps between knowledge and attitude and attitude to action largely due to cognitive and socio-psychological factors. The models:

1. indicate peoples’ receptiveness and how new information fits into their existing socio-psychological schemas is key to their uptake of knowledge,
2. crucially portray values (which people weight against their beliefs) as the core starting point in the process of change, as it is fundamental to attitude formation.
3. stress even when attitude change has been successful, the process of attitude translating to action tend to be largely directly influenced by rational/voluntary and irrational/involuntary factors (affect/emotions, habit, intention and perceived behavioural control).
4. furthermore, indicates external environmental conditions and constrain, that is the context within which individual change is being enabled also tends to influence individuals’ ability to actually carry out the new behaviour as it can act as a barrier or enabler, hence plays a crucial role in the behaviour change process alongside factors internal to the individuals.

Building on this, in the following sub-section (2.3.2), I discuss key models of individual change, which tell us how behaviour change programmes are being designed considering these factors that largely influence behaviour change.

### ***2.3.2 Models of individual change***

There is “*no off-the-shelf nor ‘magic bullet’ solutions*” for addressing behaviour change (Darnton and Horn, 2013 p.2), it is a field that has been widely studied but is still evolving due to the complex nature of human behaviour, however applied models of change identified can be grouped as passive and active models.

Passive models are interventions where the targeted actors are generally unaware measures are being put in place to influence their actions, this includes information deficit model (IDM), framing and the nudge concept.

Approaches using the Information Deficit Model (IDM) assume that giving people information will enable them to make informed decisions to change their behaviour, but such models however have failed when it comes to enabling action, particularly for sustainability issues like climate change (Darnton, 2008). Research indicates that even with the uptake of information, people may not necessarily change their behaviours (see subsection 2.3.1). Kaiser and Fuhrer (2003) (also see van der Linden, 2014), explain this may be due to the type of knowledge available as there are different forms (declarative – factual knowledge; procedural – knowledge of appropriate courses of action; effectiveness – knowledge of how effective each course of action is) and they mostly all converge to foster behaviour change. Some studies such as Hines et al. (1986), Meinhold and Malkus (2005) and Bamberg and Moser (2007) which took into consideration the degree of knowledge and psychological factors find a strong correlation between knowledge and behaviour change, however, wider empirical evidence leads to the conclusion that while it is certainly true that knowledge is necessary it is not a sufficient factor for behavioural change, as it is mediated by cognitive and psychological factors. (van der Linden, 2014). Although knowledge can play a major role in shaping attitude, most often, attitude does not translate to action (Darnton, 2008). Empirical findings show peoples culture, core values and world views tend to shape their action more than giving them information or knowledge about a thing (Poortinga et al., 2011; Kahan et al., 2011). Hence, the assumption of a linear progression from knowledge to a favourable change in attitude and in turn changes in behaviour which is coined the Knowledge-Attitude-Behaviour (KAB) model (Armitage and Connor, 2001), is widely acknowledged as fallible even amongst sustainability authors (Blake, 1999; Kollmuss and Agyeman, 2002; van der Linden, 2014).

Framing and the nudge concept, unlike the IDM, recognise the role socio-psychological factors can play in behaviour change, as their research findings highlight how consistently irrational humans are, challenging IDMs assumption that humans behave rationally, the alternative approaches they however proffer are highly debated. Though Framing agrees with the notion that knowledge can bring change, it however argues that how the information is put forward is relevant, as research proves humans’ sensitivity to how things are framed due to reliance on a number of mental shortcuts to speed reasoning (Tversky and Kahneman, 1970). For example, altering visuals/words to give positive effect, like portraying a glass as half full, may most likely elicit better reaction than presenting it as a half empty glass. Hence, according to its chief proponents Tversky and Kahneman (1986. p.251) “*alternative descriptions of a decision problem* *often give[s] rise to different preferences*”. Hence, a move from merely providing people with information towards targeted information campaigns, which entail understanding people or a group of individuals’ schemas around any area of interest, so as to frame issues in a way that it appeals to them. Nudging (Thaler and Sustein, 2008) on the other hand appears to bypass these socio-psychological issues, as it is about making ‘subtle changes’ to get people to do things which are considered to be in their best interest. It is mainly used by governments, most notably in the UK and America. For example, the UK government’s 2012 policy of auto-enrolment for private pensions, where people have to opt out rather than opt in, and which has led to considerably higher private-sector, pension-saving participation. Though considered highly successful, these passive models have met with great resistance and criticism, mostly because they do not engage the targeted actors and are widely considered to be manipulative and deceptive because knowing about their effects can allow actors to look past them to assess how it may be influencing them or lead to them choosing a different line of action (Chu, 2017).

Active models are models that seek to engage the target actors in the process of change. Most notably, models within this group imply a learning process, particularly because of the feedback loops inherent in their design, as a means to evaluate impact and change performance. “*Even in models which don’t explicitly show feedback, learning is at work determining outcomes, as our learnings from past behaviour shape our expectations of future outcomes, our emotional reactions, our habits and our sense of agency*” (Darnton, 2008. p.47). Examples of such models which encourage actors’ engagement are Defra’s 4 Es Model (2008), Cultural Capital Framework (Knott et al., 2008) and the Department for Communities and Local Government’s Model of Community Empowerment (CLG 2008).

Defra’s 4 Es Model is based on 4 principles which are to; ‘enable’ actors by removing barriers such as equipping them with the knowledge and skills, removing structural and environmental constrains, ensuring they can take the action; ‘encourage action’ through external motivating factors like incentives (for example through reward schemes) and establishing a feedback loop; ‘engage’ with the actors; and lead by ‘example’. The model was initially developed for government to engage the public in pro-environmental behaviour change programmes, however today it is being used more broadly (Darnton, 2008). A criticism of the 4 Es model is that though its underlying principles appear non-cursive, government may combine encouragement with enforcement through regulatory instruments, where it deems it necessary to compel behaviour change in some circumstances. Another notable issue with the model is it does not account for socio-psychological influences on behaviour, hence it being seen as a framework for intervention, rather than a behaviour change model.

Efforts to address this shortcoming of Defra’s 4 Es Model led to the development of the Cultural Capital Framework (Knott et al., 2008), which still based on the 4 principles of 4Es does not only engage the actors and aim to remove barriers but also acknowledges the cultural context of actors, which is considered a most crucial factor in the change process (Knott et al, 2008). Culture simply is:

“*the way we do things around here*, [it can be a conscious or] *unconscious set of assumptions that define an organisation’s view of itself and how it deals with the world, and in turn what behaviour is legitimised or proscribed. […], enshrined in policies and procedures, and finds form in the day-to-day conversations and behaviour we participate in. it has powerful consequences*” (Cook, 2014 p.1).

Society’s cultural norms shape institutions’ by encouraging them to conform to accepted rules and rituals; so cultural rules from the environment can shape or constrain organizational behaviour and action (Huerta and Zuckerman, 2009). However, not all institutions want to maintain the status quo and are constrained by societal and institutional norms, some seek to, and do break away from “*long-standing institutionalized patterns*” (Huerta and Zuckerman 2009 p.416). Building on the importance of culture in behaviour change, the Local Government’s Model of Community Empowerment (CLG, 2008) also acknowledges the need for a greater sense of collective agency for successful outcomes, which is also supported by Chapman’s ‘System Failure’ (2004), for a non-prescriptive approach to change that is based on systems thinking and ever learning.

Behaviour change hence according to these socio-psychology models and depicted in Figure 2.8 is partly a function of agency and partly due to the situational constraints and conditions. Agency is individuals’ voluntary and involuntary action. The intent to take voluntary action is a product of knowledge, values and then the perceived ability to take that action as theorists’ highlight (see section 2.3.1). Two school of thoughts emerge on how perceived behavioural control (PBC) can be addressed. On the one hand is motivation the individual to improve feeling of self-efficacy (Carver and Scheier’s Control Theory, 1982) – of which motivation has to do with “*all those brain processes that energize and direct behaviour, not just goals and conscious decision-making. It* *includes habitual processes, emotional responding, as well as analytical decision-making*” (Michie, 2011, p.4). On the other hand, is the individual altering or adjusting his or her standards and set goals which will then influence his/her perceived ability to take the action (Bandura, 1977; 1991). Underlying them is automatic ongoing monitoring and the process of individuals reflecting on own behaviour and its impacts (feedback loop), which can result in adjustments being made to subsequent behaviour (Carver and Scheier’s Control Theory, 1982). Overcoming involuntary habitual responses (see section 2.3.1) as well as learning new behaviours hence is a matter of initiating and sustaining the new behaviour, which benefits from removing situational constraints and by creating enabling conditions through culture change (Triandis, 1977). Even in behaviour change within the wider sustainable development agenda, authors like Jackson (2005) argue policy-makers have a key role to play in the behaviour change process, largely due to their extensive influence over the cultural and institutional context within which people act*,* which according to Michie et al (2011) can be effectively shaped by deploying targeted guidelines, legislations, regulations, fiscal measures, communication/marketing, service provisions and environmental/social planning, to enable, train or educate, coerce, incentivise, persuade, restrict, restructure the environment or model the behaviour they want people to emulate, in other to change behaviours.

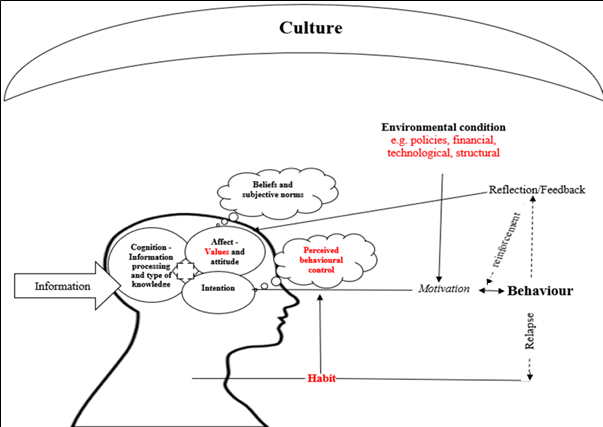


Figure 2.8. Factors that can inhibit and enable behaviour change process

Social psychological models tend to place individuals within their socio-cultural context which in turn is embedded within the material world (e.g. see ISM model in Figure 2.7), but in the context of Higher Educational Institutions, and as illustrated in Figure 2.8, I consider institutional culture as the driver of the material world within which students reside, as HEIs if willing, can break away from external societal influences to build their own culture (e.g. see Huerta and Zuckerman 2009), which in turn arguably has the potential to drive choices relating to their material world.

In summary, models of individual change show two key factors central to enabling behaviour change, they:

* are outcome focused: in other words, they are very much centred on enabling the new behaviour/action
* consider the socio-psychological factors that influence behaviour change; the context within which behaviour change is being enabled and individual agency (a matter of voluntary and involuntary sources of action) are seen as crucial considerations in intervention design:
  + - context: Institutions need to act as role models, remove environmental conditions and constrains that act as barriers, foster collective ownership of the behaviour change intervention, work towards developing supportive culture that enables the behaviour change, needs to be open to learning and change, actively seek to engender culture change and action for example by incentivising, providing guidelines and policies.
    - Individual: active engagement -though behaviour change interventions can take place with the target audience passive in the process, best practice is that they are actively engaged in the process; learning and feedback/reflecting- equip with knowledge and skills, feedback/reflect on progress; with particular aspects being understanding how the voluntary and involuntary sources of behaviours (affect/emotions, habit, intention and perceived behavioural control) are influencing the behaviour change process to help shape future actions; initiate and sustain action to enable the formation of new behaviour.

## **2.4 Enabling behaviour change: Education for Sustainability within Higher Education curriculum**

Having in preceding section established behavioural sciences indicate there are cognitive and socio-psychological factors largely influencing the uptake of information to the formation of new behaviours, hence if not taken into consideration in behaviour change intervention design, tend to lead to the discrepancy between attitude and action, I now review the EfS literatures, to present the way Higher Education is approaching Education for Sustainability.

Firstly, I note here that EfS is being delivered in Higher Education through the curriculum. There are three modes of learning ‘curriculum, co-curriculum and extra curriculum’ which are also interchangeably referred to as formal, in-formal and non-formal modes of learning respectively. Abbott (2014 np.) states that the distinction between them are *“extremely fuzzy in practice and the terms are often used interchangeably*”, the difference however and as Abbott (2014 np.) highlights, is that:

* Curriculum means formal learning that usually takes place within the classroom;
* Co-curriculum denotes *“activities that are extensions of the formal learning experiences in a course or academic program”;*
* Extra-curriculum is used to refer to activities that *“may be offered or coordinated by a school but may not be explicitly connected to academic learning”.*

At the early part of the DESD, the focus was on embedding the principles of sustainability into the formal curriculum (Roberts and Roberts, 2008; Ferrer - Balas, et al., 2008), a key criticism of this approach to learning that began to emanate mid the DESD, is that it places too much emphasis on delivering within the classroom, losing sight of the relevance of co-curriculum and extra-curriculum prospects for learning. Research (Lipscombe, 2007,2008,2009; Hopkinson et al., 2008; Ha-Brookshire and Norum, 2011) highlight that though with little or no emphasis within EfS discourse, students are being engaged in one or more forms of co and extracurricular sustainability activities (such as summits, awareness campaigns, on campus/off campus events, modification of campus environment, trainings and personal development opportunities and groups - networks, committees or those working on specific themes) within some institutions, and indicates that EfS learning designs that integrate curriculum and co/extracurricular interventions have far greater impact.

The review of EfS within Higher Education curriculum here, which is based on the insights gained from behavioural sciences (factors influencing behaviour change and models of change), is covered in over two subsections, the first of which focuses on their approach to EfS curriculum design (subsection 2.4.1) and the second the institutional context within which it is being delivered to enable students’ behaviour change for sustainability (subsection 2.4.2). While EfS literature on approaches to embedding EfS in the curriculum is reviewed on a global level, in terms of the context in which it is being delivered, there will be particular emphasis on what is happening in the UK HEI sector as it is the focus of this thesis. The UK is of much interest because it ranks as having the highest number of institutions attracting students from all over the world, whose graduates are most sort after by top companies (The World University Ranking, 2018), and it also has a particularly impressive record of educating the world’s future decision makers, for example, 55 past and current world leaders (Presidents, Prime Ministers and monarchs) from 51 countries graduated from UK HEIs and out of the 245 current heads of state, 26 attended a UK university (HEPI, 2015).

### ***Approach to Higher Education EfS curriculum design***

While the core purpose of EfS is students being enabled to take actions for sustainability, only very few studies focus on this outcome. Generally observed, is that EfS papers are very much about ways of enhancing students’ knowledge/understanding, and how to incorporate EfS within the curriculum which could be its infusion in existing courses (e.g. see Perera and Hewege, 2016); the introduction of stand-alone specialist courses on sustainability (Contreras et al., 2015); the designing of optional standalone modules, which can be taken by students from varying disciplines across institutions or within faculties, and the development of interdisciplinary programmes (e.g. see Bacon et al., 2011; Hegarty et al., 2011; Bursztyn and Drummond, 2014). In terms of the factors that can influence students’ behaviour change for sustainability and models of change very little has been done as subsection 2.4.1.3 will show; though, certain features core to EfS and the views/perspectives of those in HEI around these, provide useful insights on how EfS is being approached, of which I start this section by presenting them in subsections 2.4.1.1 and 2.4.1.2.

#### 2.4.1.1 EfS behaviour change agenda: perspectives

Having in the past in response to societal needs shifted from their core traditional liberal stance to focus on equipping learners with specific skills and knowledge to meet business/economic needs, further to which they have now been asked to change behaviours to save the world (see section 2.2.1), has brought to the fore discussions on how far Higher Education is being pulled from its traditional ways amongst academics. The contrast of traditionally being an institution producing gradates that are free thinkers and broad minded to one that prescribes actions people should take forms the core of these debates, central to which are two perspectives – Emancipatory and Instrumental- on how EfS should be approached (Scott and Gough, 2010; Blake and Stirling, 2011) of which their core distinguishing features are outlined in Table 2.1. The main line of debate is if it is the place of education to change people’s behaviours prescriptively (Instrumental perspective) or to give them the capacity to do so of their own free will (Emancipatory perspective).

Table 2.1. Core distinguishing features of Emancipatory and Instrumental EfS *p*erspectives

|  |  |  |
| --- | --- | --- |
|  | **Emancipatory** | **Instrumental** |
| **Focus** | Individual capacity building | Action focused |
| **Core approach** | Does not prescribe actions | Does prescribe actions |

Those who employ (consciously or not) the *Instrumental perspective* tend to argue that the rapid decline of the state of the planet requires that we use all available tools and instruments to change behaviours. As such, these Instrumental-grounded scholars and practitioners would tend to promote/facilitate (informed, skilled) behaviour change and ways of thinking that are pro-sustainability (Vare and Scott, 2007). They influence factors internal and external to the individuals to enable behaviour change (Tengland, 2016). For example, by influencing students’ beliefs about what constitutes good waste management -promoting recycling (internal), or by placing recycling bins in strategic locations around campus in order to make students recycle more (external). While this approach tends to be successfully if the target actors are enabled to be active in choosing the interventions that concern them, it however is mostly at a risk of being professional-centred – i.e. were professionals assume they know what the problems are, and are seen as disregarding individuals’ autonomy, ultimately focusing on the behaviour rather than the causes of it (Tengland, 2012).

Those who employ (consciously or not) the *Emancipatory perspective* argue that it is not the purpose of education to change people’s behaviour into a predetermined direction. Rather, education should enable learners with knowledge and build their capacity to engage critically with sustainability issues, develop anticipatory and integrative thinking, the capacity to deal with complexity and ambiguity, action competence, and attributes including care and empathy(Peters and Wals, 2016). Emancipatory-grounded scholars and practitioners would stress this sort of intervention will lead to the development of globally minded critical citizens with awareness of planetary issues, and they hope this translate to action that are favourable to safeguarding the Earth (Wals et al., 2008; Ferrer-Balas et al., 2010). Peters and Wals (2016 p.183) stress that this Emancipatory approach to EfS willresult in *“deeper and more fundamental societal change [which] will be more sustainable than quick fixes, short-term thinking and a focus on behaviour without consideration of the deeper issues and values”.* They however note (p.183) that “s*ome say that this is a language game or a matter of semantics and that the emancipatory perspective is just as instrumental in the end*”. Fundamentally, those (Vare and Scott, 2007 p.3-4) who argue that Instrumental and Emancipatory approaches are both “*complementary [argue this is]* *because people need to hear what the sustainability lobby and governments are telling us to do [Instrumental] in order to have relevant subject matter to debate and test in our own contexts [Emancipatory].* Meaning one must acknowledge the prescribed sustainability actions (Instrumental), to be critical of them (Emancipatory), hence both perspectives are blended as they go hand in hand. Wals et al (2008) provides examples of Instrumental, Emancipatory and Blended approaches within the wider community. According to their accounts: the Instrumental approach an ‘adopt a chicken campaign’ made it easy for people to take the action, which they did in large numbers (75,000); the Emancipatory project was centred on consultations with citizen and stakeholders of an urban district, to create ‘sustainable urban districts’ they “*focused on rather general goals of achieving greater sustainability and increasing the quality of life in urban districts” (p.60)*, the response here was not quantified, though they indicated it went well; however, they specified the blended approach which though has a specific goal (instrumental) to conserve and manage natural landscape elements in farming areas, seeks individuals (continuing) creative inputs to achieve this (Emancipatory). They provide learning opportunities for the target audience (including providing courses, course materials, booklets and a dedicated website) which has been effective in enabling deep learning but also participation (had more than 1000 members at the time the paper was written). In fact they state it has a “broad appeal, which is reﬂected in the wide representation of civilians, farmers, and the business community among its members” (p.61). Wals et al (2008) emphasise that Instrumental and Emancipatory approaches reinforce each other, though also highlighting, while this may work from a policy perspective, it may be contradictory from an educational perspective. Hence Wals (in Peters and Wals, 2016) argue critical distinction between both Emancipatory and Instrumental perspectives is important, as it “*strengthens deliberative democracy and opens up conversations about the nature of both education and sustainability*”.

I did not find any EfS research that shows how these Emancipatory and Instrumental perspectives are underlying (or indeed can underlie) EfS curriculum nor their outcomes. The literatures do however show that many HEIs and their staff that are interested in Education for Sustainability are progressing its course (Beringer and Adombent, 2008; UNESCO 2014), and indicates their approach to EfS tends to be underlined by the Emancipatory approach. It is HEIs normal mode of operation, to strongly oppose to anything which might be prescriptive/challenging freedoms as subsections 2.4.1.2 and 2.2.1.3 which follow shows.

#### 2.4.1.2 EfS underlying principles and features

EfS fundamentally calls for learners to be equipped with values, knowledge and skills, to enable their behaviour change for sustainability, of which these core principles cut across three existing domains of learning that enable construction of clear learning objectives with measurable outcomes (Bloom et al, 1956):

* *the cognitive or thinking domain*, which is centred on mental skills/reasoning/rationality, accounting for the knowledge aspect of EfS;
* *affective or feeling*, which has to do with emotions, hence deals with the values aspect of EfS; and
* *psychomotor or kinaesthetic*, which has to do with manual or physical skills - learning by doing. The skills aspect of EfS can be classed within this domain.

As illustrated in Figure 2.9, there are two classifications in the cognitive domain, one in the affective domain, and three in the psychomotor domain. In the original version of the cognitive

domain (Bloom et al., 1956), learning objectives rank from the simplest to the most complex functions in the following order: knowledge, comprehension, application, analysis, synthesis, and evaluation. However, in the revised version (Anderson *et al*. 2001), the two highest forms of cognition have been reversed and the steps changed to verbs arranged as (again, from simplest to most complex): remembering, understanding, applying, analysing, evaluating, with

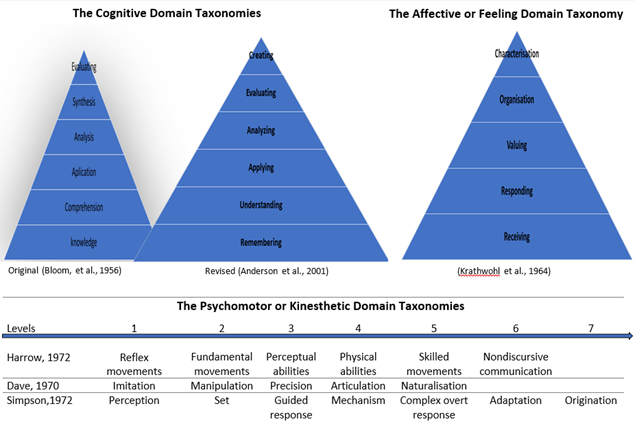
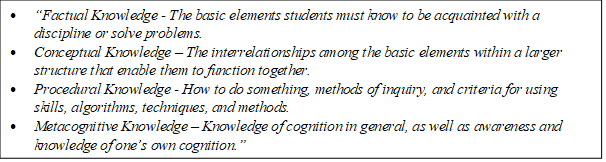


Figure 2.9. Three domains of learning – cognitive, affective and psychomotor (adapted from Wilson, 2017 and Chapman, 2017)

the last and highest function being, creating. In the first subgroup of ‘remembering’, four knowledge types are embedded: factual, conceptual, procedural and metacognitive (Box 2.2) (Anderson et al., 2001). As also illustrated in Figure 2.6, learning objectives in the affective domain (Krathwohl, et al., 1973) hierarchically from the least to most difficult levels are receiving, responding, valuing, organising and characterisation. While for the psychomotor domain, three classifications were identified, they progress hierarchically from the left to the right; for example, learning objectives may move progressively from reflex movements, fundamental movements, perceptual abilities, physical abilities, skilled movements to non-discursive communication (Harrow, 1972). Sipos et al. (2008) through an experimental learning action research, found that Education for Sustainability programs which incorporate all three domains of learning (cognitive/knowledge, psychomotor/skills, affective/value) exhibit an emergent property which they term transformative sustainability learning.



Box 2.2. Types and levels of knowledge (Wilson, 2017 np)

While the cognitive and psychomotor domains are generally utilised in teaching, the affective domain/prompting values to Higher Education learners on the other hand is very rare and generally tends to meet with criticism (Shephard, 2008) as also within the sustainability education discuss (Jickling and Spork 1998; Lijmbach et al. 2000; Thamas, 2002; Dobson 2003; Hailwood 2005; Schinkel 2009; Jickling 2003; Jickling and Wals 2008; Sund and Ohman, 2014). Sund and Ohman (2014) stress EfS values should be criticised, with a key question being if there are values that can be justifiably universal which can suffice for all the worlds people. Thamas (2002 p.235) opposes such a concept as he argues for the difference in cultural appropriateness, asserting universities “*must encourage the multiple voices of people of diverse cultures in order to facilitate the creation of futures that are not only comfortable, but also culturally and environmentally sustainable*”. This line of argument portrays Higher Education as value-neutral. However, as liberal education has been shifting to suit the evolving purpose of society - giving credence to societal movements particularly democracy and ultimately citizenship education - it has in the process become value-laden (Mulcahy, 2009). Hence, some authors caution that this value-laden and normative EfS ideal is particularly problematic as it could potentially be a political instrument that supports a speciﬁc ideology, which could lead to education losing its deliberating- and critical-potential (Jickling and Spork, 1998; Dobson, 2003; Bell, 2004; Hailwood, 2005; Schinkel, 2009; Jickling, 2003; Jickling and Wals, 2008). Many authors (Jensen and Schnack, 1997; Elliott, 1999; Rauch, 2002; Stables and Scott, 2002; Englund et al., 2008; Huckle, 2008) have accordingly claimed that participatory perspectives that involve acknowledging diverse interests and support for independent opinion making, action competence (empower people educationally, so that they can develop an action competence as democratic subjects and actively take part in democratic processes on sustainability issues) and critical thinking, should be a signiﬁcant feature of EfS.

While, these Emancipatory forms of learning (including critical thinking and participatory perspectives) EfS authors call for do feature as characteristics of HEIs EfS as Table 2.2 shows, however, simply because students exhibit them, does not mean HEI is undertaking (high-quality or any meaningful) EfS, rather it is the ability for students to apply them on sustainability issues that matters. That is, for example, students may have been equipped with critical thinking and problem-solving skills and the interdisciplinary knowledge required to solve a problem but if this is not channelled towards sustainability, then they cannot be said to be exhibiting EfS. It is the values element of EfS which is portrayed as crucial to the learning process in Table 2.2, that will enable behaviour change towards sustainability.

Sustainability values is seen as critical to challenging the existing ways of thinking (belief of what is right/normal) which drive current unsustainable behaviour patterns. Although pro-sustainability values are important in that sense, knowing what action is required and having the competences/skills to take the actions are also acknowledged as crucial. Sterling (2012) states that HEIs generally tend to skirt around the issues of values, preferring the language of quality assurance and skills to that of ethics and purpose. Shepheard (2008 p.87) attributes this to the traditional “*relucta[nce] to pursue affective learning outcomes*”, emphasising this still persist because they “*simply fail to identify and describe their legitimate aims [and] aspirations*” for affective learning outcomes, and argues of its applicability on theoretical grounds that shows the relevance of having it in their curriculum, which they can do without tampering with the “*liberal[/Emancipatory] traditions of higher education*”. Cognition/rationalism is seen as the means for one to emancipate his/herself and is fundamentally opposed to affective side of human behaviour which it seeks to overcome, towards the ability to always be in control exercising power of choice (Rosen, 2004). However, EfS calls for affective learning outcomes and “s*ome areas of higher education, however, have effectively pursued affective outcomes and these use particular learning and teaching activities to do so. Key issues for consideration include assessing outcomes and evaluating courses, providing academic credit for affective outcomes, key roles for role models and designing realistic and acceptable learning outcomes in the affective domain”* (Shephard, 2008 p.87). The hesitation (underlie by the Emancipatory perspective) to truly engage learners in the affective (values) domain within the wider HEI community, appears however to play out in HEI EfS curriculum tending to focus on students specialising on sustainability issues rather than their reorientation as a whole being.

Table 2.2. Characteristics of Education for Sustainability (adapted from Enearu, 2011 p.13; UNESCO, 2005; Sterling, 2012; Atkas et al, 2015)

#### 2.4.1.3 EfS change models

Though sustainability behaviour change agenda is being infused in Higher Education curriculum, a crucial observation from reviewing EfS papers (see Table 2.3) is that, there generally is little to no attention paid to action, unlike knowledge and attitude. There has been on campus research into students’ sustainability actions, including barriers to their sustainability living practices in halls of residence (Chaplin and Wyton, 2014) and bicycle commuting (Whannell et al., 2012). Amongst the EfS curriculum literatures, researchers focus on raising awareness, equipping students with knowledge, and there are acknowledgements and considerations for the cognitive barriers that can hinder the process of students learning (Olson et al., 2011; Sund and Lysgaard., 2013; Cebrain and Junyent, 2015). Some do go further to (empirically or nonempirically) explore knowledge to attitude development, with values seen by a number of them as crucial to enabling students sustainability actions; though tending to be focused on learning outcomes that enable graduates to develop sustainability work related attributes (Higgitt, 2006; Sibbel, 2009; Kanbar, 2012; Kagawa, 2007; Polk and Knutsson, 2008; Stubbs and Cocklin, 2008, Whannell et al., 2012; Holmberg et al., 2008; Podger et al., 2010; Sidiropoulos et al., 2013; Eagle et al., 2015; Ha-Brookshire and Norum, 2011; Sutton and Gyuris, 2015). There is little to nothing on the gap between values/attitude and action.

Assessing the link between sustainability knowledge and students’ action for sustainability is scarce, numerous empirical research beyond HEI, even in the wider sustainability community show that education generally has little to no impact on sustainable behaviour (McKenzie-Mohr and Smith, 1999) and the few empirical researches looking at the impact of HE EfS on students’ action agree with this finding (Sammalisto et al., 2016, Hereen et al., 2016). Sammalisto et al (2016 p.11) explored the outcome of EfS infusion in three-year undergraduate programme across two HEIs in Finland. They assessed 188 students’ self-perceived knowledge, awareness and actions before and after their studies. Gap between students’ attitude and action was prevalent, though Sammalisto et al (2016) did not provide details of the core/fundamental approach (perspective/model) underlying the EfS learning these students were exposed to, they did however recommend that further studies should look beyond cognition to also include affective learning outcomes. Hereen et al., (2016) on the other hand focusing on the relationship between knowledge and behaviour change, acknowledged the socio-psychological factors that largely influence behaviour change process. Through a self-reported survey of 4,455 students (both those exposed to sustainability learning and randomly select participants) they found a weak relationship between sustainability knowledge and

Table 2.3 Enabling students behaviour change for sustainability through Higher Education curriculum: gap spotting

|  |  |  |
| --- | --- | --- |
| Embedding EfS within Higher Education curriculum | Specific gap/  Overlooked area | Reviewed papers |
| Factors influencing behaviour change process | *Knowledge attitude gap- under researched*  Knowledge to attitude  The literature focus on awareness/knowledge and attitudes but there is little to nothing on the value/attitude action gap | Sibbel (2009); Olson et al. (2011); Sund and Lysgaard (2013); Cebrain and Junyent (2015); Higgitt (2006); Kanbar (2012); Kagawa (2007); Polk and Knutsson (2008); Stubbs and Cocklin (2008), Whannell et al. (2012); Svanstrom et al. (2008); Podger et al. (2010); Sidiropoulos et al. (2013) Eagle et al. (2015); Ha-Brookshire and Norum (2011); Sutton and Gyuris (2015) |
|  | *Knowledge action gaps- unresearched*  *[students self-reported outcomes]*  Students self-reported outcomes. Value/attitude action gap found. Assessment done was cognition bias, though the researchers recommend future research should include affective outcome.  Students self-reported outcomes. Acknowledges the socio-psychological factors that largely influence the translation of knowledge to action and findings show the weak relationship between knowledge and action. Recommends education and enabling action be clearly distinguished as they are very different matters. | Sammalisto et al., (2016)  Heeren et al., (2016) |
|  |  |  |
| Models of change | *Cognition bias and unresearched*  Outcome focused, though psychological factors are acknowledged, the model however does not state how they can be addressed. Overall the model is cognition based and the area is largely unresearched | Sterling (2014) |

action, relatively stronger relationship between attitude and action, when the factor that influence behaviour within this gap where taken into consideration. In fact they stress education about sustainability even with all the capacity building (including equipping students with knowledge and critical thinking skills) though necessary, has little to no impact when it comes to enabling students’ action, that Higher Education should engage students in learning that is behaviour focused where students learn about the factors that influence their behaviour change process. They however acknowledge this is a conundrum and current dominant Emancipatory education and behaviour change sit on two opposite end of a spectrum.

Sterling (2014 p.99) puts forward a cognition based EfS Model to the EfS community as a means to enable students with the capacity to [if they so desire] take action for sustainability. Sterling’s (2014) ‘a continuum of change strategies’ (Figure 2.10) shows, a learner’s journey - from becoming familiar with the subject, gaining knowledge and understanding (Transmissive), to questioning existing beliefs (Transactional), then being competent enough to act on sustainability issues (Transformative). Though he (Sterling, 2014 p.99) acknowledges that the assumption of a linear progression from knowledge to action is fallible and states the process is “*progressively challenging”* due to psychological factors, however the model does not state how this can be overcome. Table 2.4 shows the model is cognition based and stem from three forms of EfS – education ‘for about and as’ sustainable development. Education about sustainable development denotes teaching sustainability theoretically without challenging existing unsustainable practices. The second, education ‘for’ sustainable development which ranks higher than ‘about’, does challenge predominate unsustainable practices, it incorporates the values dimension of EfS for students to question existing norms and beliefs that shape society and their activities. The last form ‘education as sustainable development’ which is considered the most difficult form:

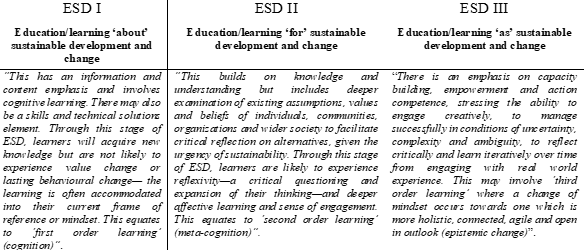
*Subsumes the first two responses […] the shift here is towards ‘learning as change’ which engages the whole person and the whole institution. There is a keen sense of emergence and ability to work with ambiguity and uncertainty […], in this dynamic state, the process of sustainable development or sustainable living is essentially one of learning, while the context is essentially that of sustainability*

(Sterling, 2001 p.61)

Achieving education as sustainable development, which is the state where students have developed the capacity to take action for sustainability, according to Sterling (2004) is not an easy task for HEIs but is possible within Higher Educational Institutions where sustainability culture exists.

Figure 2.10. A continuum of change strategies (Stirling 2014 p.100)

Table 2.4. Forms and stages of ESD: A model of progressive engagement and deeper learning (adapted from Sterling, 2014, Box 3 on p.98)



### **2.4.2 Institutional context**

Key UNESCO reports (2014, 2015) and EfS literatures indicate HEIs across the globe are implementing EfS within their curriculums. This includes institutions in Argentina, Australia (Pavlova, 2009; Turner, 2009), Austria, Belgium, Brazil, Canada, China, Costa Rica, Croatia, Denmark, Egypt (e.g. Sweilam et al., 2014), Fiji Islands, Finland, France, Germany, Greece, Greenland, Hong Kong, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Jamaica, Japan (Kitamura and Hoshii, 2010) , Kyrgyzstan, Latvia, Lebanon, Lithuania (Kliucininkas, 2001), Malaysia, Malta, Mexico, Netherlands, New Zealand, Norway, Portugal, Russia (e.g. Verbitskaya et al., 2002), Saudi Arabia, Singapore, South Africa, Spain (Leon - Fernandez and Domínguez - Vilches, 2015), Sweden, Switzerland, Taiwan (Su and Chang, 2010), Thailand, United Kingdom, USA. Higher Educational institutions management have particularly since Agenda 21 (United Nations, 1992) which recommended that sustainability is embedded in research, education, and community outreach, shown their support for the EfS agenda (Berringer and Adombent, 2008). HEIs’ presidents and provosts have been signing up for declarations which encourage them to integrate sustainability principles in their institutions, whereby they are to enhance their environmental management systems, initiate community outreach programmes and contribute through pedagogy and research (Waheed et al., 2011; Dlouha and Barton, 2013). This includes declarations such as the ‘Stockholm’ in 1972, ‘Tbilis’ in 1977, ‘Talloires’ in 1990, ‘Halifax’ in 1991, ‘Swansea and the Kyoto declarations’ in 1993 (Corcoran and Wals, 2004). HEI top managers have however in general been constantly criticised for not doing enough to implement EfS (Bekessy et al*.,* 2007; UNESCO, 2014).

Authors (Leal Filho, 2009; Wals and Blewitt, in Sterling, 2015; Sterling and Scott, 2008; Sterling, 2015) categorise the level of implementation of sustainability in Higher Educational institutions in three incremental stages (Table 2.5).

Table 2.5. Levels of implementation of sustainability in Higher Educational Institutions (Leal Filho, 2009; Wals and Blewitt, in Sterling, 2015; Sterling and Scott, 2008; Sterling, 2015)



Of these three levels of implementation of sustainability which Leal Filho (2009) terms ‘three stages of evolution’, Walls and Blewitt (in Sterling, 2015) call a ‘third wave response’ and Sterling and Scott (2015) class as a ‘spectrum of change’, the third stage which denotes a shift in culture ‘a whole institution approach’ (WIA) to EfS, is the most important for Education for Sustainability. Institutions in the third stage are those that have a pro-sustainability culture, as they exhibit long-term commitments to the SD agenda, they make it core to their very existence/ way of thinking, embed it in their principles and practices, have enabling policies with senior staff overseeing implementation efforts. Sterling and Scott (2008) and Sterling (2015) stress that without sustainability principles haven permeated institutions visions, ethos and practice, for real transformation of all aspects of HEIs operations, practices and teachings, it may not be possible for Education for Sustainability to flourish. Similarly, Thomashow (2012) another seasoned EfS practitioner, also stresses for this transformation to take place, HEIs need to embed the principles of sustainability into their institutional values, practices and processes, such that it permeates every aspect of campus life. Thomashow (2012) puts forward nine principles for a sustainability culture to emerge, which are classed under three key areas, as Figure 2.11 illustrates and as I also discuss now:

1. *Infrastructure*, which involves the material context including, for instance, how buildings are powered (energy sources/carbon management), supply chains and procurement of products and services of e.g. food (productions and consumption) and materials (impact on the environments, life cycle, upcycling, recycling), become avenues for institutions to show leadership and foster students learning and engagement.
2. *Community*, which involves issues of governance where sustainability principles are infused in processes and budgets. Indeed, EfS should enjoy for example: collaborative decision making; strong leadership support with established implementation conventions (e.g. clear aims, accountability structures and agency); clear strategic consideration of relevant investment matters especially in terms of economic, social and environmental impacts; and staff and students wellbeing should be promoted.
3. *Learning*, which involves the infusion of sustainability principles in across institutional curriculum, aesthetics that is arts used to vividly illustrate sustainability matters to put in people’s consciousness, interpretation means attention being called to every aspect of campus life to serve as a learning opportunity for EfS.

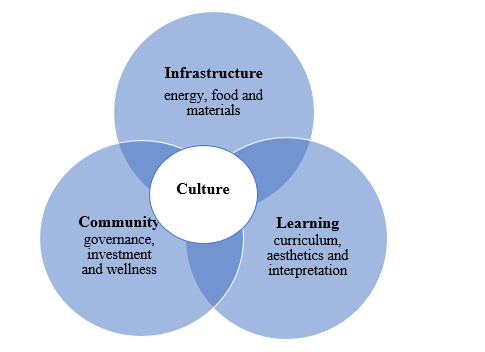


Figure 2.11. Principles for institutions culture change (adapted from the work of Thomashow, 2012)

Research into the sort of institutional context that enables effective EfS (Littledyke et al., 2013) supports these authors assertions, as reiterated by Figure 2.12, it confirms a whole systems approach to EfS is key (where sustainability principles permeates institutions curriculum, governance and infrastructure) to enabling EfS to flourish.

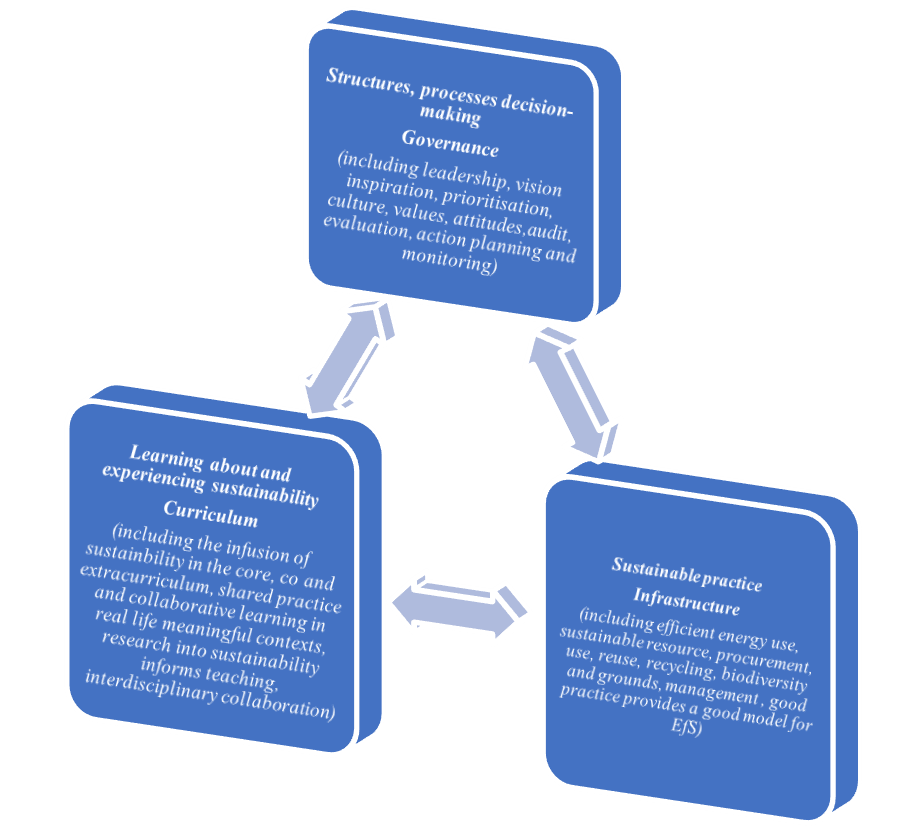


Figure 2.12. Systems model framework on what contributes to effective Education for Sustainability (Littledyke et al., 2013 p.371)

Sterling and Scott (2008) noted mid the decade of EfS (DESD) that although good progress had been made in promoting sustainability within UK HEIs infrastructural campus management operations, very little had been done to re-orientate HEIs learning and teaching. They suggest that the curriculum dimension suffered from a lack of incentive to engage, inadequate leadership from UK HEIs main funding body (Higher Education Funding Council for England) and the autonomous nature of teaching and learning.

Arguably, UK political leadership for sustainability was strong at the start of DESD, with key policy documents such as its sustainability strategy ‘Securing the future’ (2005), and other key policy initiatives, including its ‘Low Carbon Transition Plan’ and ‘Low Carbon Skills Challenge’ highlighting the importance of EfS (BIS, 2010; DECC, 2010). Also, indicative of the importance being given to both education and sustainability, earlier in 1998, the UK government established a Sustainable Development Education Panel (SDEP, 1998) to facilitate action on embedding ESD in all education sectors throughout the UK. But progress faltered as the decade continued, as a result of changing political priorities and the re-organisation of the policy framework for Higher Education, including, in 1999 devolution of educational strategy to individual countries (England, Scotland, Wales and Northern Ireland).

In England, until recent times where the Office for Students is now the Higher Education’s chief regulator, it used to be the Higher Education Funding Council for England (HEFCE), and its policies and relationship with Higher Educational institutions as Sterling and Scott (2008. p.387) noted, was “*key to understanding the current progress and prospect of [EfS] in HE in England”.* As a non-departmental public body of the Department for Business Innovation and Skills (BIS), HEFCE was a direct conduit between central government strategy and HEI policy which is crystallised each year in a letter (The Grant Letter) from the Secretary of State for Business Innovation and Skills to HEFCE confirming funding allocations and priorities for HEFCE and Higher Education the forthcoming year. Although in most years the Grant Letter included specific mention of support for sustainability, this support invariably focused on supporting institutions in their efforts to improve their sustainability. It was therefore little surprise that in 2014 HEFCE’s Sustainable Development Framework focused principally on reducing the environmental impacts of the sector. Curriculum support was included but limited to the reorientation of existing disciplines to supply graduates, and in particular science, technology, engineering and mathematics (STEM) graduates to emerging low carbon or ‘green’ sectors of the economy.

HEFCE had, however, also taken action to raise awareness and increase engagement in EfS within the curriculum, albeit through a different route -its Funded Higher Education Academy. The Higher Education Academy was founded in 2004 as a British professional institution to promote excellence in Higher Education learning and teaching. It is funded directly and indirectly by HEFCE and the other national funding councils (Scottish Funding Council, Higher Education Funding Council for Wales and the Department for Employment and Learning Northern Ireland) via grants and institutional subscriptions. Although principally working within traditional subject disciplines, until 2014 HEA supported a number of cross- disciplinary themes including EfS. In 2011, it established its Green Academy change programme, to assist institutions of learning develop their EfS agenda, aiming mainly to incorporate EfS in ‘student experience’ primarily through the curriculum (McCoshan and Martin, 2012). With the Quality Assurance Agency (QAA), that is HEIs academic standards regulator, HEA developed practical guidance for HEIs on how to work with students to foster their knowledge, understanding and skills in the area of sustainable development but notable does not include the values dimension. This guidance was specifically intended to complement Chapter B3 of the UK Quality Code for Higher Education (QAA, 2014) which sets out the expectations that all providers of UK Higher Education are required to meet and is used in QAA review processes. The HEA has also since 2011, worked with the National Union of Students (NUS), to carry out a national annual student survey assessing students’ attitudes towards, and expectations on, sustainability (Agombar and Bone, 2011. Agombar et al., 2012. Drayson et al., 2013; Drayson, 2015; NUS 2016, 2017, 2018). These surveys now form a unique, large (around 52,000 respondents) and continuous data set of student attitudes to sustainability. Which has over the years consistently indicated students want and expect their institutions of higher learning to provide them with the skills, values and knowledge to live and work in a sustainable way.

Over 2011-2013, the Higher Education Academy (HEA) worked with 18 HEIs to support institutional change for EfS, though not without challenges. That is changes to HEIs curricula, policies, processes, practices and to develop the leadership capacity to scale up EfS across institutions (Luna, et al., 2012; McCoshan and Martin, 2012; Martin et al.,2014). Key barriers to EfS implementation identified were EfS lacks time and resources, is impacted by discipline silos and importantly many institutions lack leadership hence no true implementation efforts (no responsibility and monitoring). Undermining these challenges to infusing EfS within these institutions, several approaches to embedding EfS within the curriculum were reported. In particular, it was highlighted that the case where EfS is taken up as a strategic priority by top management, results in its inclusion in strategic documents, becoming central to institution’s educational purpose, in turn driving a whole institutions approach to EfS. While for some HEIs, staff participating in efforts to embed EfS with the curriculum was compulsory, most however were against such an approach as they stress this would not result in staff genuinely engaging with the agenda. In this later case, staff were not mandated to engage, and were not incentivised. The approach taken was communicating the relevance of EfS and how it can be embedded in students learning to departments, with students being encouraged to take optional sustainability modules, they report this was ineffective. On the other hand, where staff were incentivised though not mandated to engage, they report they made advances with infusing EfS within the curriculum. It was also observed that where staff autonomy was a barrier, connecting the core and co curriculum in HEIs ensuring the sustainability component is part of students accredited learning led to students’ engagement.

Since the HEFCE HEA green academy report (Martin et al., 2014), little to nothing is known about EfS implementation at the strategic level nor the outcome in terms of students being enabled to take action for sustainability. Though, the end of DESD report (UNESCO, 2014) which was also published around the time of HEA’s green academy report, notes that within the decade, globally, there has been significant increase in efforts to address the sustainability of campus operations (typically involving initiatives to reduce carbon and waste), sustainability research and the building of networks of HEIs and scholars for the sharing of tools, reporting frameworks and good practice, changes in policies and practice, but, “*the whole institutional approach doesn’t exist”*, and students are generally not taking action for sustainability (UNESCO, 2014 p.117)

**2.5 Knowledge gaps:** **thesis’ central research question and constituent aims**

The literature review indicates the current track of Higher Education is *not* suited for enabling widespread behaviour change of students for sustainability. Higher Education is being looked to – in particular via the embedding of Education for Sustainability in its curriculum – to produce graduates that have been transformed: from individuals who largely exhibit the ‘normal’ behaviour patterns of today’s society, to individuals who demonstrate new ways of thinking and *acting* that favour the move towards a sustainable world.

In this chapter, I unpick the assumptions behind HEIs approach to EfS, and do so in an innovative interdisciplinary way, which I argue has not yet been meaningfully done in the EfS literature. Specifically: my literature review has covered both the behavioural sciences and the Higher Education EfS (and related) literatures, and, through this, I found a significant research need that urgently needs to be addressed. Behavioural sciences indicate there are two gaps that should be better accounted for: (1) between the uptake of knowledge and attitude formation; and then also (2) between attitude and action; both of which are due to cognitive and socio-psychological factors.

This review has also emphasised that should EfS practitioners (i.e. those actually doing EfS on-the-ground) appropriately address these two gaps, then we would see effective behavioural intervention programmes that are ‘action focused’ being successfully rolled out. Furthermore, and fundamental to the attitude-action gap, the review made clear that promoting values to engender supportive attitudes and then (via considering both individual and contextual factors) facilitating the enactment of the desired behaviour and sustaining it for the new behaviour to crystallise, would be needed as part of any successful EfS approach.

Such approaches and priorities do initially seem to be at odds with what is actually happening within the Higher Education sector. Indeed, while the active participation of the targeted individuals is what is required, the use of best practice ‘Instrumental’ approaches are very rare (see section 2.3). In contrast, it is clear that an ‘Emancipatory’ perspective has traditionally underlay Higher Education EfS curriculum designs, and thus has not created the required opportunities for promoting values. A focus has instead been on equipping learners with knowledge/skills to build their capacity to take action, whether or not those learners actually opt to do so (see section 2.4).

The outcome of this information-driven Emancipatory approach, in terms of students’ behaviour change, is relatively unresearched within the Higher Education context. However, a vast array of behavioural sciences research prove it to be largely ineffective, as ‘knowledge to attitude to actual action’ is not a linear process (undermining the ability and intention of the actor to take the action). I am therefore keen to reiterate that addressing the (socio-psychological) factors that influence this process is very much dependant on enabling actual action, rather than merely conative action.

In summary:

* *EfS is different to Education.* The problem-focused nature of EfS inherently requires us to focus on behaviour change. However, EfS research has fundamentally continued to follow traditional educational roots, and thus focus on learning and capacity-building, rather than behaviour change. As such, EfS research relatively rarely pulls on wider social science behaviour change literature.
* *EfS research literature is underdeveloped and requires more work.* The empirical focus of research (and indeed priorities of EfS) has been limited to embedding EfS in the curriculum (e.g. standalone courses, vs. threading it through the curriculum), with little to nothing on the outcome in relation to students’ behaviour change. There are so many fundamental questions that are yet to be asked/answered, such as: does EfS permeate the core purpose of Higher Education, and if so what is its aim – changing students’ behaviours or raising awareness/knowledge for capacity-building purposes?; what perspectives actually underlie Higher Education approaches to EfS curriculum design (Emancipatory or Instrumental)? These are significant gaps in the literature that urgently need addressing, as otherwise HEIs are likely to continue pushing their information-obsessed EfS programmes, which alone are ill-equipped to drive the widespread changes required in students’ actions. Ultimately, the Higher Education sector has the opportunity to really contribute to societal change through a much more action-driven agenda, and (at present) this opportunity is being lost.

Moving towards a sustainable pathway is crucial for our sustainability on earth, and I certainly argue that education is key to achieving this, e.g. through the production of future leaders, employees and innovators who can take pro-sustainability actions. However, EfS is not leading on this in the way that it should be; is it because education is not intended to be contributing in this way, and/or that there is something fundamentally wrong in the approach used by the Higher Education sector or by EfS practitioners in particular? This thesis puts all these ideas at the heart of its enquiry, by asking:

***To what extent are Higher Educational Institutions (HEIs) actually seeking to be a tool for enabling students’ actions for sustainability?***

*[Thesis’ central research question]*

Answering this question entails examining/investigating the following four aims, which form the basis of the results and analysis chapters, hence the core of this thesis:

**Aim 1:** Investigate to what extent strategic importance is being explicitly and publicly afforded to Education for Sustainability in HEIs.

*Addressed in Chapter 4*

**Aim 2:** Investigate HEI approaches to EfS and how they relate to the number of students engaged in taking action for sustainability.

*Addressed in Chapter 5*

**Aim 3:** Examine the contextual landscape in which HEIs are implementing EfS, in particular where and why individual actions, by students or EfS staff, are taking place.

*Addressed in Chapter 6*

**Aim 4:** Examine how students respond to the ‘Instrumental and Emancipatory’ approaches to EfS in relation to taking actions for sustainability.

*Addressed in Chapter 7*

The following chapter looks at how these aims (and ultimately the central research question) can be explored through data collection and data analysis.

# **PART II: Research design**

# **Chapter 3 Research methodology**

“*The way we think the world is (ontology), influences: what we think can be known about it (epistemology); how we think it can be investigated (methodology and research techniques) [and] the kinds of theories we think can be constructed about it”* (Fleetwood, 2005 p.197)

“*Paradigm is a researcher’s “net” that holds the ontological, epistemological, and methodological beliefs, […] it is the “first principle, or ultimate*” (Levers, 2013 p.3)

**3.1 Introduction**

As researchers, a core issue in posing and answering research questions is our philosophical position, which in combination with the research methodology, provides the overall conceptual framework within which we work (Bisman, 2010; Sobh and Perry, 2005). Saunders et al.’s (2009) ‘research onion’ (Figure 3.1) is a useful analogy to view such a framework. The outer layer represents research philosophy, which influences the research approach. Research approach in turn influences the research strategy, which includes the: choice of methods (quantitative, qualitative, or a combination of both); time horizon – cross sectional/longitudinal; and the techniques and procedures we may use for data collection and analysis.

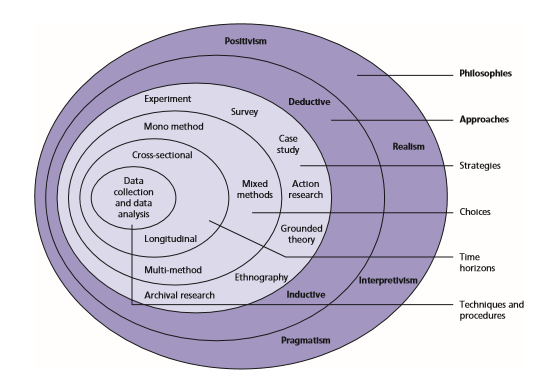


Figure 3. 1. Saunders et al (2009 p.108) ‘research onion’ - layers in the development of knowledge

I dwell on philosophies of science at the start of this chapter because too often researchers fail to make their philosophical stance explicit, which can make it difficult for readers to “*situate the research and assess the claims made through it*” (Lipscombe, 2009 p.44). I argue that it is important for researchers, such as myself, to sufficiently contextualise the foundations underlying their methodology – and I believe that the layers of Saunders et al. (2009 p.108) ‘research onion’ in Figure 3.1 is an excellent basis for laying bare the philosophical stance of my research (methodology).

This chapter has five sections below; the first of which starts off highlighting the ontological, epistemological and axiological assumptions and briefs underlying philosophies of science (section 3.2), before discussing four main research philosophies ‘Positivism, Interpretivism, Realism and Pragmatism’. The section will show a pragmatic approach was adopted, through which it was identified a variant of Realism, ‘Critical Realism’, best aligns with this research; the next sections (3.3 and 3.4) shows the implication of such a philosophical stance on the research design; ethical considerations are presented in the fourth section (3.5); and the chapter’s concluding remarks are in the fifth and final section (3.6).

**3.2 Research Philosophies**

*“The term research philosophy refers to a system of beliefs and assumptions about the development of knowledge*” (Saunders et al., 2016 p.124)

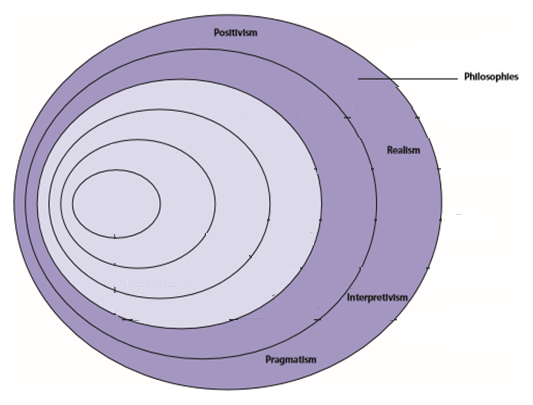


Figure 3.2. Layers in the development of knowledge: philosophies (adapted from Saunders et al., 2009 p.108)

A Philosophy of Science is the “*basic belief system, worldview or paradigm that guides an investigation*” (Guba and Lincoln, 1994 p.105), and it is underpinned by ontological and epistemological assumptions, as well as issues of axiology (Sobh and Perry, 2005). While ontology is concerned with our assumptions of how the world works – which can influence the way we view the world and what we consider to be ‘real’ – epistemology deals with the interaction between the knower, what is to be known, and how this knowledge is developed, and Axiology on the other hand, deals with how our (researchers’) personal values influence research outcomes (Sobh and Perry, 2005).

These three terms are now discussed in the context of Pragmatism (sub-section 3.2.1), and specifically what philosophical approach I have taken in my research (and with what implications), as a result of this thesis’ context.

***3.2.1 Pragmatism***

Three common philosophies of science one encounters in research are ‘Positivism’, ‘Realism’ and ‘Interpretivism’, but whilst the debate around them (based on their ontological and epistemological assumptions as well as axiological beliefs) continues (see section 3.1.2), another philosophical viewpoint ‘Pragmatism’ argues one should not be tied to adopting one of these positions but rather:

“*the most important determinant of the epistemology, ontology and axiology [one] adopt[‘s] should be based on the research question. [As] one [philosophy] may be more appropriate than the other for answering particular questions*” (Saunders et al., 2009 p.109)

Pragmatists consider having to choose between one philosophical position or the other as being somewhat unrealistic in practice. Indeed, Tashakkori and Teddlie (1998) suggest that when carrying out a study, it is more useful for researchers to consider the philosophy adopted as a continuum, rather than opposite positions. They highlight that “*at some points the knower and the known must be interactive, while at others, one may more easily stand apart from what one is studying*” (Tashakkori and Teddlie, 1998 p.26). Personally, I am drawn towards Pragmatism because it helps me to avoid what I see as rather pointless debates. Tashakkori and Teddlie (1998) argue that Pragmatism easily appeals to researchers, typically because it avoids them engaging in what they see as rather pointless debates about such concepts as truth and reality. They suggest, researchers should “*study what interests [them] and [what] is of value to [them], (…) in the different ways in which [they]deem appropriate and use the results in ways that can bring about positive consequences within one’s value system*” (Tashakkori and Teddlie, 1998 p.30). I would certainly argue that their argument is realistic as researchers can be bound by what constitutes acceptable knowledge in their field of study (Saunders et al., 2009). For example, where pure natural sciences that are mainly concerned with naturally occurring phenomena tend to be objective, the social sciences (e.g. psychology, which I draw upon in this thesis) are instead concerned with social actors and tend to be subjective. A good example to illustrate my point further is: the amalgamation of disciplines forming new fields of study/institutes (Geisler and Ori, 1998) and modern day transdisciplinary studies, where entirely merged disciplines or parts of disciplines are brought together to form new fields of study or institutes (such as bio science which later turned into life or health sciences), which entails combining traditional paradigms of the “*parent*” areas with new ideas (Geisler and Ori, 1998). Thus, it appears important for researchers to be cautious of a hard-philosophical stance as they may be bound by the norms of the fields of studies (for the field of Accounting see Bisman, 2010), or like research such as Education for Sustainability, may require multiple/alternate point of departure due to its transdisciplinary nature (see Chapter 2), hence the appeal of a pragmatic stance.

In sum: the key implication for my thesis’ data collection is that I will be solely guided by the needs of my central research question (and its constituent aims), which will then guide my philosophical choice. I discuss this philosophical choice in the following sub-sections (3.2.1.1 -3.2.1.2).

*3.2.1.1 Positivism and Interpretivism*

Comparing the stances of Positivism and Interpretivism shows how paradigms can vastly differ based on their fundamental ontological and epistemological beliefs.

A key divide is the ontological question of if society/social actors are creators of reality (Povoa, 2016). Interpretivists say yes, while positivism vehemently reject this notion, as the ideal is based on reality existing out there without any influence from social actors. Positivism originates from the natural sciences where the study of natural phenomena’s (e.g. mountains, molecules) are said to exist independent of social actors (Chowdhury, 2014). In contrast, the main (original) goal of Interpretivism is to meaningfully study the nature of people’s character and participation in both social and cultural life, which is believed gives rise to individual/social reality (Chowdhury, 2014).

The epistemological question of what should be considered ‘acceptable’ knowledge further widens the gap between Positivist and Interpretivist philosophical view, as ontological assumptions can have far reaching implications. Positivism claims valid knowledge of the world can be based only on observation and experiment, interpreted through reason and logic; fundamental to it is the idea that science is the only way to learn about the truth, and their goal is to make time and context free generalizations (Carson et al., 2001; Hudson and Ozanne, 1988). Positivism has an atomistic view of the world, which it sees as “*comprising discrete, observable elements and events that interact in an observable, determined and regular manner*” (Collins, 2010 p.38). They believe human actions can be explained as a result of real causes that temporarily precedes their behaviour. Interpretivist researchers, on the other hand, *“argue that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings, and instruments*” (Myers, 2008 p.1). Hence, Interpretivists aim to explore the realities of individuals as they experience the world, drawing on their interpretations, using naturalistic inquiry. Crucial to the Interpretivist philosophy is that the researcher has to adopt an empathetic stance. The challenge here is to enter the social world of research subjects and understand their world from their point-of-view. Positivists, however, reject the abstract reasoning process and peoples’ internal meanings, motives, feelings and emotions, as they argue these exist only in one’s consciousness hence cannot be observed and measured in any objective way (Saunders et al, 2009). Positivists claim researchers and their research subjects are independent and do not influence each other, and also claim independence from the study to concentrate on facts - as they state there is no provision for human interests (Carson et al., 2001; Hudson and Ozanne, 1988).

Positivism assumes its applicability in sciences in general, as it believes that society, like the physical world, operates according to general laws, and this has been highly contested by Interpretivists, as they argue due consideration should be given to the differences between the physical world and areas such as social sciences. Social structures do not exist independently of the activities which they shape or are the product of; social structures do not exist independently of the agents’ views, as they reflect upon the institutions to which they belong and alter their behaviour accordingly. Such a process does not take place in the natural world, and social structures will be shaped by the actions of agents and will therefore change depending on a range of factors, including time and location (Marsh and Furlong, 2002). Several meta-analyses of Positivism studies support these arguments that due regards should be given to the differences between natural sciences and social sciences (Szymanski and Henard, 2001).

In sum: Positivism and Interpretivism are at opposite ends of the philosophical spectrum, and thus comparing them is a useful way to better understand my own philosophical stances in the context of this thesis – which, of course, I am keen to do as a Pragmatist. In the next sub-section (3.2.1.2), I build on the foundations of this sub-section by detailing my philosophical underpinnings for this thesis, and the reasonings and implications behind this.

*3.2.1.2 Systems thinking and Critical Realism*

This sub-section provides context on my pragmatically chosen Philosophy of Science: Critical Realism. I begin by discussing the roots, origins and fundamental assumptions behind Critical Realism, before then moving on to discuss how it clearly differs from Positivism and Interpretivism, and why it is thus a useful philosophical basis for me in answering my research question/aims.

Because of the reductionist nature of Positivism, a call for systemic thinking in philosophy both within natural and social sciences ensued in the early 1970s (Laszlo, 1972). Reductionism is concerned with “*generating knowledge and understanding of phenomena by breaking them down into constituent parts and then studying these simple elements in terms of cause and effect*” (Flood, 2010 p.269). Social scientists did not regard reductionism as compatible with the realities of the social world which is very systemic in nature, they argued it was unsuitable to use same principles as the natural world in the social world and called for a systems philosophy to provide a new and vibrant systemic approach to address the complexity of the social world (Mingers, 2014). In the natural sciences also, biologists found the reductionist concept had limits, particularly with regards to the dynamics of organisms, because clearly apparent, organisms behave in ways that are more than the sum of their parts (Emery, 1981). That is, organisms’ exhibit ‘emergence’ – a state where a phenomenon cannot be fully comprehended in terms only of properties of constituent parts, rather exhibits the whole of it is greater than the sum of its parts. This ‘emergence’ quality of organisms gave further impetus for the critiquing of reductionism, and the advent of ‘systems thinking'. Proponents (Bertalanffy, 1976; Weiss, 1977; Walter Cannon, 1932) and subsequent shapers (Meadows, 2008; Checkland, 1981, 2012) of ‘systems thinking’ argue that the world is systemic, and phenomena are an emergent property of an interrelated whole. In other words, “*existence of an organism cannot be understood solely in terms of behaviour of some fundamental parts, as parts are interrelated and influence each other*” (Flood, 2010 p.270). Hence, researchers in the Positivism dominated natural science began to acknowledge that “*valid knowledge and meaningful understanding comes from building up whole pictures of phenomena, not by breaking them into parts”* (Flood, 2010 p.269). “*The idea for a systems philosophy, was realised in the form of ‘Critical Realism’ which is deeply and fundamentally systemic in nature”* (Mingers, 2014 p.4).

Critical Realism developed by way of arguments against both the empiricist view of science as embodied in Positivism (Bhaskar, 1978), and the idealist view of (social) science as embodied in Interpretivism (Bhaskar, 1979). Critical Realism as Positivism accepts an objective ontology as true, that is, reality is external to the mind, but where Positivists restrict reality to the observable, realists take a stance that “*there are always aspects of any form of reality that remain hidden beneath the surface of what can be observed*” (Ibrahim, 2014 p.4). Another form of Realism one encounters is Direct Realism. For Direct Realism, what we experience through our senses portrays the world accurately. While Critical Realism argues that what we experience are sensations, the images of the things in the real world, not the things directly, pointing out how often our senses deceive us. According to (Saunders et al., 2009 p.115)

*“A simple way to think about the difference between direct and critical realism is as follows. Critical realism claims that there are two steps to experiencing the world. First, there is the thing itself and the sensations it conveys. Second, there is the mental processing that goes on sometime after that sensation meets our senses. Direct realism says that the first step is enough. To pursue our cricket (or rugby) example, the umpire who is the critical realist would say about his umpiring decisions: ‘I give them as I see them!’ The umpire who is a direct realist would say ‘I give them as they are!”*

Realism epistemologically agrees with positivism with regards to the derivation of knowledge 'scientifically, such as the systematic collection of evidence, reliability and transparency. Critical Realism, however. goes further to argue that what we see is only part of the bigger picture, we will only be able to understand what is going on in the social world if we understand the social structures that have given rise to the phenomena that we are trying to understand (Bhaskar, 1989). Thus, Critical Realists also acknowledge that our knowledge of reality is a result of social conditioning and cannot be understood independently of the social actors involved in the knowledge derivation process (Dobson, 2003). Accordingly, realism recognises the importance of the subjective dimension of human action, hence they include methods that document the validity of people's experiences (Bhaskar, 1999). That is to say, although Realism supports the transferability and usability of natural science ‘Positivism’ philosophy in social sciences, it recognises, acknowledges and addresses the role of subjectivity epistemologically (Bhaskar 1989).

The focus of realists’ methodology is on theory and they argue that there is no such thing as theory-free data as researchers are biased by world views, cultural experiences and upbringing. There is no commitment to either quantitative or qualitative methods in Critical Realist research design, rather methods chosen must fit the subject matter (Hartwig 2007). Critical Realism addresses concerns relating to the perceived shortcomings of Positivism and Interpretivism, as it seats somewhat at the middle of the spectrum harnessing the strength of Interpretivism method but avoids “*Positivist counter-attack on grounds of relativism or irrealism*” (Lipscombe, 2009 p.46).

Fundamentally, the key assumptions that divide Critical Realism from Positivism and Interpretivism are (Holland, 2014 p.27):

* Ontologically: its transcendental realism contrasts with the empirical realism and actualism of both Positivism and Interpretivism and “*allied to a qualified, critical naturalism, which overcomes the basic split between a naturalistic positivism and an anti-naturalistic Interpretivism”*.
* Epistemologically: “*judgemental rationalism, presupposing epistemic relativism and entailing epistemic fallibilism, in place of the judgemental relativism, reductionism, monism and endism characteristic of Positivism and Interpretivism alike”.*
* Methodologically: “*unity-in-diversity, replacing the scientism, monism and relativism and anti-naturalism associated with the Interpretivist tradition”.*

Critical Realism is congruent with systems approach (Mingers, 2014), which is advocated as best practice to Education for Sustainability (EfS) by the Global Action Programme (2015) (see Chapter 2). EfS Whole system/integrative approach acknowledges the complex nature of Higher Education Institutions’ systems within which HEI students and staff (social agents) and structures (Governance, Infrastructures, Curriculum) operate. As Figure 3.3 indicates, reductionists’ Positivism is fundamentally contrary to HEIs EfS, which relies not only on constituent parts and layers (Governance, Infrastructures, and Curriculum) of their systems, but most importantly how these components interplay as a whole to engender effective EfS curriculum. Also, as Figure 3.4 portrays, though students attitude not translating or translating to action can be an objective observation, through Critical Realism I can go beyond the observed to study the structures, mechanism and powers that give rise to the such outcomes (Governance, Infrastructures, Curriculum), whilst exercising caution, scepticism and reflexivity when accounting for these underlying ontological richness, with the consciousness that any knowledge gains are typically provisional, fallibilist, incomplete and extendable (Holland, 2014). As I research and develop my knowledge of the mechanism that can give rise to the phenomena unpicking between practices/actors and structures, Critical Realism gives me a framework with which to contextualise my findings, which is very vital in gaining understanding/useful insights of HEIs approach to EfS within a complex Higher Education system.

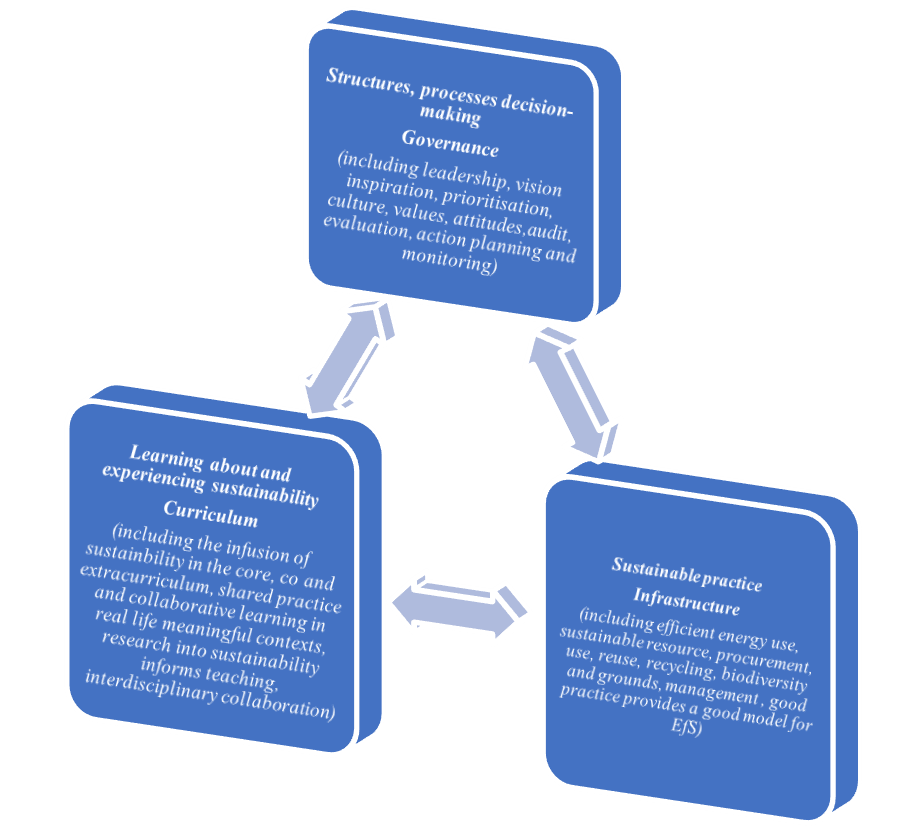
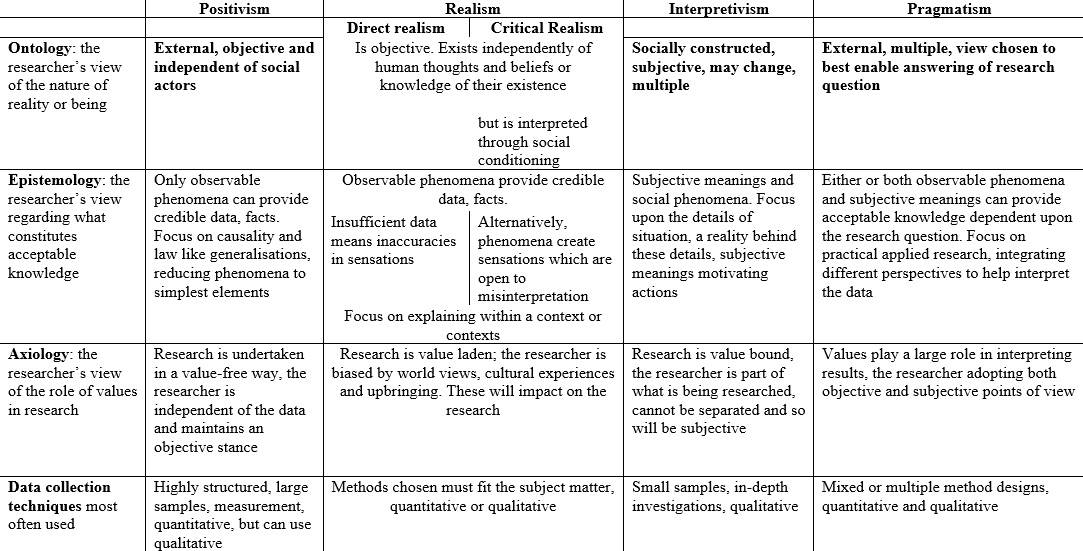


Figure 3.3.Systems model framework on what contributes to effective Education for Sustainability (Littledyke et al., 2013 p.371)

Having pragmatically identified Critical Realism, as the philosophy that best aligns with my research, I now consider the methodological approach I will utilise to best answer the thesis questions and its constituent aims in the following sections of this Chapter.

Table 3.1. An overview of four research philosophies (adapted from Saunders et al., 2009)

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**3.3 Research design and justification**

Although several authors have over the years tried to shape the methodology associated with Critical Realist perspectives (e.g. Yeung, 1997; Sayer, 2000; Danermark et al., 2002; Olsen, 2009; Edwards et al., 2014; Fletcher, 2016), it has no standardised ‘cook-book’ method and allows for the use of either qualitative or quantitative methodology, or combination of both (Yeung, 1997; Fletcher, 2016). For Critical Realism as earlier mentioned, it is not a matter of choosing between qualitative or quantitative methodology because by its very nature both are valid, the methods chosen rather must fit the subject matter (Parker, 2003; Hartwig, 2007). Hence, a bespoke research design will be utilised in this research, with careful considerations given as to how best to addresses the research question and its constituent aims at every stage.

Figure 3.4. Education for Sustainability within Higher Educational institutions: domains of reality – real, actual, empirical

Having no restrictions regarding utilising either or both qualitative and quantitative approaches puts me in a good position to probe unbiased their suitability for this research in relation to the design, and I argue that fundamentally Critical Realism (the depth that I explore) lends itself to a qualitative approach. The Critical Realist lens portrays the world as ‘layered’ into different domains of reality as illustrated in Figure 3.4 – these are ‘real, actual and empirical’ layers (Steele, 2005). Quantitative research tends to be seen as suited to carrying out empirical observations investigating linear causal relationships between different variables in the actual domain. That is, how patterns of behaviour that we can directly observe (empirical domain) has been caused or its relationship with a factor in the actual domain. However, if going a step further to explore how the observed patterns of behaviour (empirical domain) is being produced (actual domain) it is to the causal power/mechanism that we look. Mechanisms tend not to be readily obvious or observable and can only be fully explored in open systems (the real domain) (Bhaskar, 1975), and the way causal mechanisms interact tends to be contingent and unpredictable, hence are examined in the social world through real open contexts (Roberts, 2014). As I am aiming to explore issues of mechanisms (real domain), it follows that a qualitative approach is best suited for this study.

**3.4 Research approach**

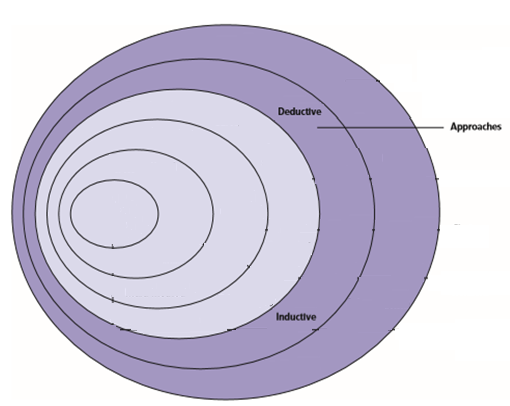


Figure 3.5. Layers in the development of knowledge: research approach (adapted from Saunders et al., 2009 p.108)

The research approach may imply an inductive direction of reasoning, but it arguably also uses deductive reasoning. Generally, researchers tend to distinguish research approach as either deductive or inductive, the distinction between inductive and deductive approaches however appears blurred, as research questions do not exist in isolation rather “*must be viewed within a particular theoretical context*” as they are typically generated based on theoretical concerns (Sim and Wright, 2000 p.268). Meaning, classing some studies as wholly an inductive or deductive approach may not be as clear cut as some researchers suggest, as both may occur concurrently (Blackstone, 2012). While the main thrust of this study might be inductive, the interaction between the conceptual and empirical aspects of the subject matter might well imply a deductive element inherent in the research, creating a cyclic process (as Figure 3.6 shows) that allows for movement between theorising and doing empirical research, providing a framework for both inductive and deductive methods of reasoning (Wallace, 1971).

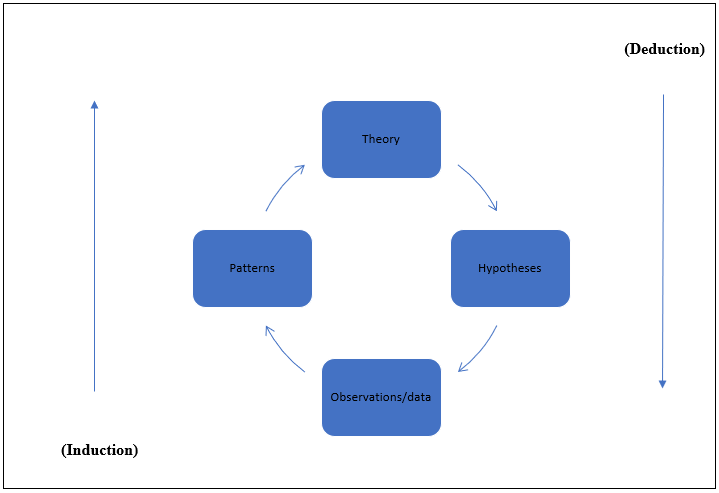


Figure 3.6 “Directions of reasoning” (adapted from van Wyk, 2012 p.13)

***3.4.1 Research strategy and data collection method***

This section as Figure 3.7 indicates unpeels and reveals two layers of Saunders et al’s (2009 p.108) “*research onion”*, that is the research strategy and how the data was collected, which both stem from careful considerations on how best to address the Chapters (4-7) aims and ultimately the central thesis question.

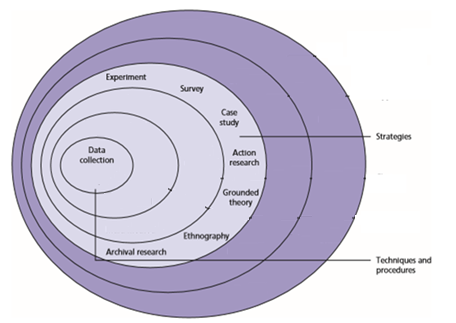


Figure 3.7. Layers in the development of knowledge: strategies and methods of data collection (adapted from Saunders et al., 2009 p.108)

These Chapters aims are mainly exploratory but also with a descriptive element. The purpose of descriptive studies, are to observe, record and provide a descriptive account of a phenomenon within an established framework of knowledge (Saunders et al., 2016), while exploratory studies are concerned with “finding out what is happening and to seek new insight” (Saunders et al., 2009 p.322). The:

* Chapter 4 (aim 1) is exploratory as it aims to establish to what extent strategic importance is being explicitly and publicly afforded to Education for Sustainability in HEIs;
* Chapter 5 and 6 (aims 2 and 3) are exploratory. These aims go beyond the observed (Chapter 4 and 7 aims) seeking insights into the powers/mechanism within HEIs that can give rise to the empirical phenomenal- that is discrepancy between students’ pro-sustainability attitude and actions. Specifically, what/how individual set about achieving EfS core aims (Chapter aim 5) and how this is impacted by the institutional support in place (Chapter aim 6).
* Chapter 7 (aim 4) is to examine how students respond to the ‘Instrumental’ and ‘Emancipatory’ approaches to enabling their actions for sustainability; while the enquiry is exploratory, it draws from a descriptive platform. Exploring this aim will require describing students (in)actions for sustainability, then compare between responses to the Instrumental and Emancipatory approaches. Though commonly observed that students do not generally take action for sustainability -that is the so called discrepancy between knowledge/ attitude and action, (UNESCO, 2014; Sterling, 2014), only a handful of EfS researchers have attempted to empirically capture this phenomenon, however they have been based on self-reported accounts (see section 2.4.1.3, Table 2.3), which is a limitation these authors raise (Sammalisto et al., 2016, Hereen et al., 2016). Self-reporting is prone to bias (Gabrieli, 2011 np.), and m*ost* crucially so for behaviour related research, due to the common tendency to *“be consciously or unconsciously influenced by "social desirability," that is, [participants] are more likely to report experiences that are considered to be socially acceptable or preferred”* (Salters-Pedneault, 2018 np.). An issue which is duly considered here. Hence, instead of an approach that relies on students self-reporting, I will directly observe and report on this phenomenon during the actual event. That is, students will be directly observed and a detailed narration of their (in)actions for sustainability will be descriptively written down (descriptive element), which in turn provides a platform for their response based on the (Instrumental and Emancipatory) approached utilised to be examined (exploratory element).

In keeping with the Critical Realist frame, I will be utilising strategies and methods of data collection that are best suited for addressing each Chapter aim with careful considerations for the descriptive and exploratory aspects of the study. As Saunders et al.’s (2009) research onion indicates (Figure 3.6), there are several types of research strategies, including survey, case study, action research and archival research. There are a lot more in use, than those highlighted in the research onion, however what is important for me to note is that, whichever strategy one adopts, is based on its ability to effectively address one’s research questions/aims/objectives. In this thesis, I compared relevant strategies in relation to the four Chapter aims. These strategies in turn require adequate data collection methods – that is *“those techniques adopted to accumulate and collect data about an object of inquiry*” (Roberts, 2014 p.2). The methods considered and utilised alongside the strategies adopted are discussed in the remaining part of this subsection.

1. *Collecting data for Chapter 4 - aim 1 - Institutional leadership: archival research strategy and document method*

While consideration was given to sending out survey questionnaires to all HEIs across the UK at the early part of this research, to find out if they were prioritising EfS, it however became immediately apparent that the information could be obtained from HEIs publicly available Strategic Documents. Strategic Documents show what senior management are prioritising in terms of their organisation’s core purpose, goals, objectives and future priorities (HEFCE, 2000). Strategic Documents therefore provide a rich source of data to explore if HEIs are prioritising EfS, and to find out the strategic importance they are placing on it. UK Higher Educational Institutions Strategic Documents (SDs) are live documents that show what top managements are prioritising. Strategic Documents also known as Strategic Plans typically have a five to ten years lifespan and on average they can be up to thirty-six pages. Research strategy using existing documents fall under archival research.

All publicly available Strategic Documents (128 out of 148) were collated (see chapter 4 for details on how this was done) and documentary analysis ensued, with the textual data generally converted to counts, though with some text elements in the report.

1. *Collecting data for Chapter 5 and 6 - aims 2 and 3 - Staff; interview strategy and individual interview method*

Chapter aims 2 and 3 are interlinked as while one looks at how individuals are approaching EfS, the other looks at the institutional context within which they are operationalising it, hence how they both interplay to generate the observable phenomenal. Meaning, while I am exploring the Individual level (see Chapter 5), I will be keenly seeking insights into the institutional context within which they operate with which the findings will also be interpreted (see Chapter 6).

In exploratorily seeking this depth of information, I look to open ended questions. While open ended surveys can be used to collect answers to open ended questions, the most important questions to be asked when seeking insights into an area/topic that is being explored is best derived from insights that emerge in conversations/interaction with participants, hence making strategies like interviews and ethnography more appropriate. For this research ethnography however is not suitable as HEIs are dispersed across the UK and within the timeframe of this (PhD) research it is not feasible to spend time in all HEIs enough to blend in and listen to their natural conversations around the phenomenon understudy. Ethnography would be appropriate if the focus was on one institution. One the other hand, whilst there is no perfect interview that can provide the full story (Gerson and Horowitz, 2002), semi structured interviews which laying somewhere near the middle in a continuum between a structured questionnaire (survey strategy) and listening to other people’s natural conversations (ethnography) (Gillham, 2000), is very useful for gaining useful insights on an issue (Blumberg et al., 2014) and considered most suitable for this study.

One-to-one interview method though very common for carrying out interview research, was not selected by default for this study. When compared with other methods like focus group, three issues arose; firstly, the possibility of gathering HEI leads whose institutions are dispersed around the country in one place did not appear feasible; secondly, HEI leads have their own individual institutional experiences regarding the issue understudy; and thirdly, some may not feel comfortable discussing its depth with colleagues from other institutions, hence focus group did not seem an appropriate method, so individual interview was therefore utilised.

The research strategy and method allowed for a semi-structured schedule of themes and questions to be used (see Appendix I), which covered issues at both the individual and institutional level (reported in two Chapters -5 and 6), enabled flexibility in exploring participants experience in conversational style, whilst maintaining some structure tied to the key research questions. Textual data was generated, and more details can be found in Chapter 5 and 6.

1. *Collecting data for Chapter 7- aim 4 – Students: illustrative case study strategy and big data method*

With regards to Chapter aim 4, which is to examine how students respond to the ‘Instrumental and Emancipatory’ approaches to EfS based on description from direct observation, I consider illustrative case study most suited for this sort of research. It is important to highlight here that there are multiple definitions of case study, which till date still inspires debates even amongst researchers within and between disciplines (Hayes et al., 2015). Commonly agreed though, is that a case study is centred on observing and collecting data on a phenomenon which can be a single or multiple case, with the aim to *“increase understanding of the studied phenomenon, either in the context of a specific instance or generalized over a population*” (Hayes et al., 2015 p.4). That is, through empirical observation, an illustrative case study describes a phenomenon, which becomes a platform to study its components. For example, Munoz and Rodosky (2011) provides an illustration of the practices a high‐performing research department which serves stakeholders at local, regional and national levels - they examined the process of requesting data, of carrying out research and the way internal and external evaluations where carried out - to help build models applicable in the context of large urban districts. This is not to say that Illustrative case study is the only method available for describing a phenomenon, as researchers do also apply other methods including naturalistic observational studies, surveys and archival methods (Gabrieli, 2011; Dudovskiy, 2018). However, while each of them may be suitable for certain types of research, but not for addressing this Chapter aim. Naturalistic observational studies specifically deal with small sample sizes, and a good sample size is best practice in behavioural research (Taborsky, 2010). Survey can be used to collect data from a large sample size, however “*the information that can be collected on any given survey is somewhat limited and subject to problems associated with any type of self-reported data”* (Salters-Pedneault, 2018 np.)- a limitation of previous research into the phenomenal understudy which I aim to address*.* With archival research, the type of data to collect may not be available like in this research, or one may have “*no control on how or what kind of data is collected”* (*Gabrieli, 2011 np)*. ‘Illustrative case study’ on the other hand, is particularly appropriate for addressing Chapter 7 aim, as I can use it to describe phenomenon,(University of Florida, 2018 p.1), which crucially provides a platform for examining it (Munoz and Rodosky, 2011; Hayes et al., 2015).

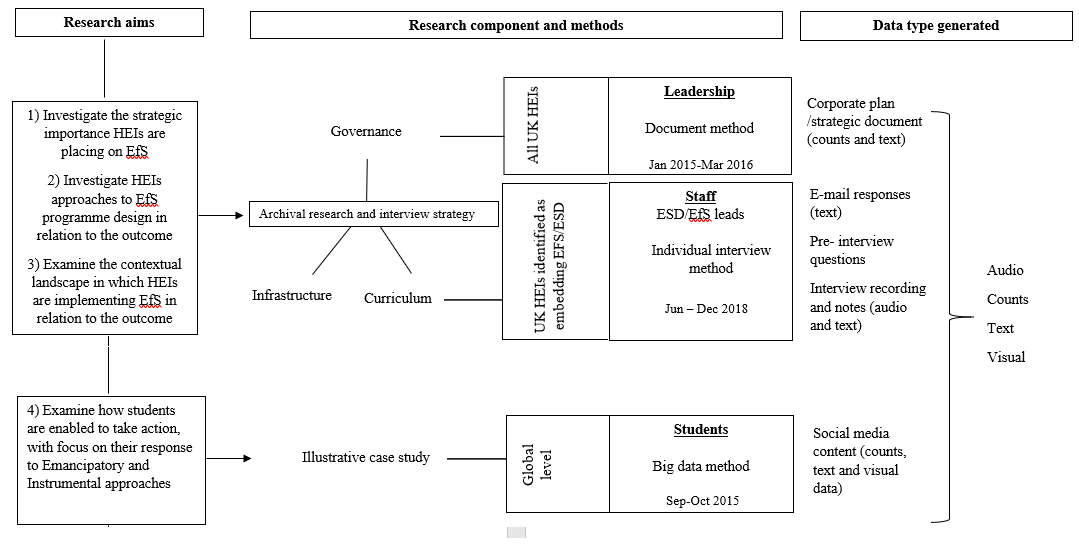
There are three core aspects of case study research, namely (Hayes et al., 2015):

1. The case/unit of observation: which in this case is the phenomenon under study, that is, students’ action or inaction’ for sustainability
2. The specific goal of the research: , To examine how students responded to the Instrumental and Emancipatory approaches to enabling their actions.
3. The research design: which requires
   1. *Case sample selection:* HEI students being engendered to take action for sustainability are the target sample population.
   2. *Selecting a site:* An EfS programme actively promoted by HEIs widely across the UK and beyond, which encouraged students to engage in conversations on social media platforms about the sort of future they want, was scheduled to take place around the time of this research, and was considered a very suitable case for this research. Firstly, this was an action focused EfS programme which many HEIs across the UK and beyond engaged with, hence it covers a wide proportion of students. Secondly, unlike EfS programmes which may be based on one approach to enabling students actions (see section 2.4.1.3), both the Instrumental and Emancipatory approaches where utilised in this programme, hence this case is illustrative of the phenomenon understudy. Data from HEI sites beyond the UK were crucial to fulfilling the specific goal of the research, hence they were drawn on; while other aims focus on unveiling details specific to UK HEIs (that is their response to and approach to EfS), the sole purpose of this aim is to illustrate a phenomenon which is best done through a diverse and wide reaching audience.
   3. *Data collection and period of data collection:* Students discussion on social media sites form the research data. This method of generating data from social networking sites is termed *“big data”* (Snelson, 2016 p.8). Two months from the date the event which was simultaneously launched around the UK and beyond began, the data was extracted from social media sites for analysis.
   4. *Reporting the results:* All forms of data such as tweets, retweets, likes, comments and pictures extracted were coded to themes, then converted to counts, though some direct quotes are present in the write-up. The data type generated are text and counts.

Three key things to note when reporting on an illustrative case study are to provide self-contained descriptions and detailed narrations of what was observed, ensuring any complex information is explained and that the report can be understood by the target audience.

Illustrative case studies however are not without limitation. It can become counterproductive if made to span over a vast number of cases, as if there are many elements to report on, the high number of in-depth descriptions of those elements may make it difficult for the report to hold the reader’s attention (Hayes at el., 2015). The fact that the case unit of this research simply focuses on one case which is students (in) action for sustainability being counted as joining in on the conversation and by which approach, means it avoids this key pitfall of Illustrative case studies.

Figure 3.8. Research components, methods and data type



***3.4.2 Research choices and time horizon***

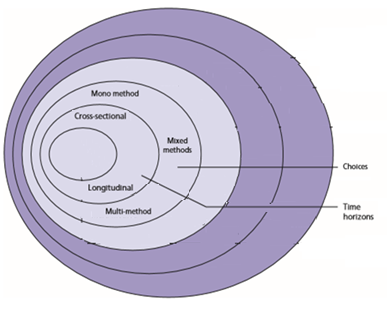


Figure 3.9. Layers in the development of knowledge: Choices and time horizon (adapted from Saunders et al., 2009 p.108)

Research is typically quantitative, qualitative or a combination of both. It is important to firstly clarify the way qualitative and quantitative terms are used in this subsection. Quantitative denotes any data collection technique (e.g. questionnaire) or data analysis procedure that are numerical in form. While qualitative is used as a synonym for data like pictures and video clips, and for any data collection technique (e.g. interview) or data analysis procedure (e.g. categorising data) in (or that generates) non-numerical data form. There are various ways in which one can chose to combine these approaches at the data collection level and analysis level which is referred to as ‘research choice’ (see Saunders at al., 2012).

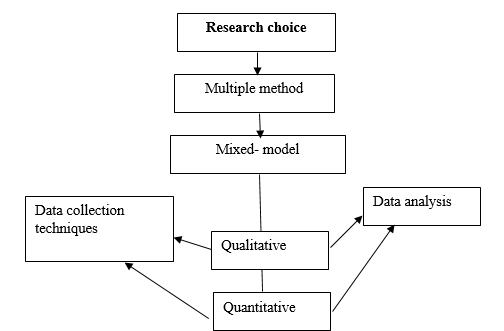


Figure 3.10. Research choices: data collection techniques and analysis procedure

The research design as the research approach, strategies and techniques indicate in preceding sections and summarised in Figure 3.9, is a mixed method form as illustrated in Figure 3.8. This study utilises multiple methods to collect primary data that are both quantitative and qualitative in nature (counts, text, audio, visual), in its analysis phase also, it combines both qualitative and quantitative by quantifying qualitative data/converting it into numerical codes, such an approach is termed a ‘mixed-model’(Saunders et al., 2012 p.153).

***3.4.3 Data analysis: content and thematic analysis***

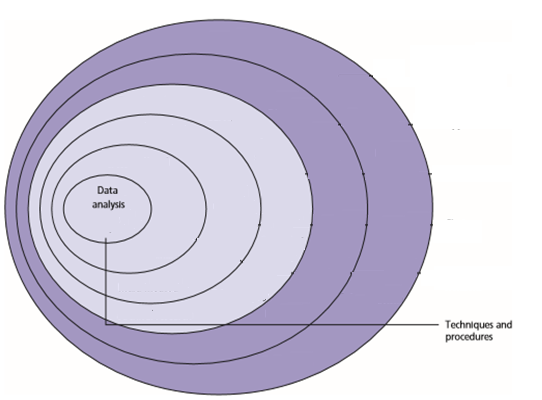


Figure 3.11. Layers in the development of knowledge: data analysis (adapted from Saunders et al., 2009 p.108)

The main data type generated across all Chapter aims of this research is textual and the most common ways of analysis such data are content analysis and thematic analysis, both of which align with the philosophical base (Critical Realism) of this research. Though the names of these two forms of analysis are typically used interchangeably and in fact content analysis is the more popular term used, thematic analysis is a more in-depth form of analysis. For most however the difference between both are blurred. A simple way of seeing the difference between content analysis and thematic analysis is by understanding the basic difference between a code and theme:

“*A theme captures a common, recurring pattern across a dataset, clustered around a central organising concept. A theme tends to describe the different facets of that singular idea, demonstrating the theme’s patterning in the dataset. Codes tend to be more specific than themes. They capture a single idea associated with a segment of data and consist of pithy labels identifying what is of interest in the data (in relation to the research question). Codes can be conceptualised as the building-blocks that combine to create themes – so multiple codes typically are combined to create themes, during the process of thematic analysis”* (Braun and Clarke, 2018 np.)

Content analysis as the name implies is a strategy for analysing contents of documents or other sources containing textual information (Powers and Knapp, 2006), through a process of systematically ‘coding and categorising’ the text for unobtrusively exploration to “*determine trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication. The purpose of content analysis is to describe the characteristics of the document's content by examining who says what, to whom, and with what effect* (Vaismoradi et al., 2013 np.). Thematic analysis is described as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun and Clarke, 2006 p 79). The difference between it and content analysis in simple terms is that it is another layer of analysis one carries out after the textual data has been coded, that is after carrying out the content analysis. Thematic analysis also as the name implies, is the process of aggregating similar codes to form major concepts or ‘themes’. Content analysis is useful in descriptive research where it is a matter of reporting what has been observed (e.g. documents), while thematic analysis which typically strives on rich data sets (e.g. interviews), goes beyond description of content to express the ‘latent content’ (Vaismoradi et al., 2013. np). Critical Realism favours these two forms of analysis, it however layers them as a two-stage approach to analysis, which is a description of data content (content analysis), then interpretation (thematic analysis) in relation to underlying structures and mechanisms (Sobh and Perry, 2005; Lipscombe, 2008). This research has a descriptive phase (content analysis) in Chapter aims 1 and 4 (chapter 4 and 7), as well as in-depth interpretation of the data (thematic analysis) in relation to the mechanisms and structures within Higher Educational Institutions that can give rise to students’ (in)action for sustainability in Chapter aims 2 (chapter 5) and 3 (chapter 6).

**3.5 Ethics**

All research has ethical issues, hence, it is important when designing a research to consider and address the ethical issues (Saunders et al., 2012). As this research comprises of not only desk-based study that required no direct or indirect contact with human participants, but also entailed interviewing people which involved direct contact with human participants, ethical issues that could arise (autonomy, risk to the participants, participants right, data management) were carefully considered. Keen attention was paid to issues around; privacy, anonymity, secrecy, informed consent, confidentiality, and truthfulness as well as the “desirability of the research”.

Anglia Ruskin University (2016 p.3) has a robust and independent ethical review process and requires its researchers to uphold the highest ethical standards, which as set out in their policy document entails conducting research which: “*respects the autonomy, rights and welfare of participants; minimises risk to participants and researchers; respect participants’ rights to withdraw from the research at any time; appropriately manages personal data*”. This study adhered strictly to Anglia Ruskin University’s ethical policy (2016) and code of practice (2014).

All potential participants were provided a Participant Information Sheet (PIS) (see copy in Appendix 2) which fully informed participants about what the research was about, why they have been asked to take part in the study, as well as the ethical issues. The PIS also informed participants that they have the choice to participate only if they so wished and stated their right to withdraw at any time with no explanation required. The participants’ background information were sort prior or during interviews (see Appendix 3 for background questions). Permission was sort to tape interviews and interviews only took place after obtaining participant informed consent freely before and during the interview (see Appendix 4 for copy of participant consent form and interview protocol). The data collected were securely stored on a password-protected computer (Anglia Ruskin University drive). Every precaution was taken to ensure participants confidentiality and anonymity were not compromised by carrying out interviews in the participants’ preferred location (office/institution premises, skype, phone) and protecting their identity adhering to the below procedure:

* Separating identifying documents (PIS and consent form) from participants data
* Assigning participants number code to anonymised data from participants
* Ensuring personal identifiers were not included at any stage during: interview recording; interview transcription; data analysis; and writing up of findings

Care was taken to ensure personal identifiers were not included in the recorded interviews. The recordings were destroyed were identifiers were (mistakenly) included in interview recordings, on transcription and analysis. Great care was taken when reporting the study’s findings, misleading results and expectations of interviewees were avoided and the right to report this work is retained based on participants’ satisfaction of the fairness, accuracy and relevance of accounts which pertain to them and that these accounts do not necessarily expose or embarrass them. To this end, no part of this study’s raw data was disclosed to anyone else or unauthorised third party to prevent unfair or unlawful processing, unauthorised retention, disclosure, modification or destruction of the data. Total confidentiality by way of people and Institutions names were maintained. Also, explicit authorisation was sort before using any of the participants’ direct quotes in any part of this thesis and associated publications/reports.

The study endeavoured to safeguard the well-being of participants by conforming to a high moral standard of ethical conduct, ensuring participants were not put in a situation that cost on to stress and anxiety to participate in the study, neither were they pressured to involuntarily disclose information that is detrimental to their image, or that may expose them to any risk from family or society. This study took every step possible to protect the personal interests of all participants and to honour their integrity.

There are also potential benefits from participation in the research. There were no monetary benefits for participating in the research both for the researcher (a wholly self-funded research) and the participants. The shared likely benefits that is hoped will come out of this thesis, are the possible increase in the understanding of the barriers to educating and fostering actual action for sustainable development, which could also possibly help in tailoring further ESD efforts and decision making in HEIs.

**3.6 Chapter summary**

This chapter highlights that Critical Realism is congruent with the advocated whole systems approach to ESD in HEIs. As the philosophical lens for this study, Critical Realism allows for the adoption of research strategy that best addresses the research questions. The research design adopted enables this study to go beyond the observed general lack of behaviour change amongst students to explore the mechanism that give rise to it.

# **PART III: Findings and discussions**

# **Chapter 4 Sustainability as part of Higher Education’s core explicit (educational) purpose and practice**

## **4.1 Introduction**

Higher Educational Institutions are implementing Sustainability principles within their institutions including its educational imperative ‘Education for Sustainability’. Higher Education as other sectors of the economy are encouraged (both voluntarily and regulation driven) to imbibe the principles of sustainability, including reducing the environmental impacts of their estates (Altan, 2010; Othman and Othman, 2014), and as centres for research and in particular a place where the worlds employees, future leaders and innovators minds are shaped, have been looked to, to through the embedding of sustainability principles in their teaching, reorientate the minds of learners to enable them to become agents of change for Sustainability (UNESCO, 2005). HEI managers have repeatedly indicated their commitments to facilitating the implementation of Education for Sustainability within their Institutions, as evident in series of signed declarations, and there has been several years of efforts to embed EfS within HEIs, including a whole decade dedicated to scaling up efforts particularly in HEIs (Bekessy et al*.,* 2007; Stephens et al., 2008; Tilbury, 2011; UNESO, 2014). Sterling and Scott (2008) stress that if sustainability principles do not permeate an institution’s visions, ethos and practice, then real transformation of all aspects of an HEI’s operations and practices - which is a whole institutions approach to sustainability- it may not be possible for EfS to flourish. They note that although good progress had been made in promoting sustainability within campus management activities and to some extent research, very little had been done to re-orientate HEIs’ curricula. Six years on from Sterling and Scott’s (2008) assertion that EfS is not yet top management priority across HEIs, Martin et al., (2014) states there are institutions where this is the case, but with the EfS community still calling for actual commitment and real leadership from HEIs’ top management to implement EfS and UNESCO (2014) stating that a Whole Institution approach is not yet happening in the HEI sector, this indicates not much has changed.

Building on this context, the aim of this Chapter is to investigate how far UK HEIs have travelled along this journey to make sustainability part of their core explicit (educational) purpose and practice – i.e. to what extent is strategic importance being explicitly and publicly afforded to Education for Sustainability?

I argue that a focus on HEI Strategic Documents (SD) is a really useful way to access and explore some of these important questions. For context, I broadly define an HEI SD as a document within which Institutions set out a framework of their priorities (University of Oxford, 2019). As such, these documents represent key strategic reference points for Universities to funnel their work towards common goals and ambitions. These same documents therefore feed down into Faculty and Departmental targets and action plans, and hence can be of real significance in driving on-the-ground agendas. But, regardless of the extent to which these documents drive decision-making on-the-ground (which will inevitably vary across HEIs), it is absolutely clear that these Plans do signal what university managers (1) are comfortable with explicitly committing to in a public setting, and (2) either, regard as being important, or reveal what they think others may regard as being important. It is important though to also highlight here that SDs are very high-level documents that present the public ‘face’ of an institution. Thus, as such, whilst these documents may not exactly represent what high-level HEI decision-makers may in reality think, these documents do nevertheless provide a basis by which HEIs can be held to account. Bearing all this in mind, it is extremely surprising that, as far as I am aware, there is no published work that has explored HEIs and EfS through the use of Strategic Documents – this chapter seeks to fill this gap in knowledge.

This Chapter is structured into six sections. The first section 4.2 details how: the relevant UK HEI population was identified (in accordance determining the boundaries of this chapter’s work); how the Strategic Documents from that HEI population were collated; and the process by which they were analysed. While the findings of the documentary analysis are comprehensively summarised in a tabular form in Appendix 6, they will be elaborated and extended upon in sections 4.3, 4.4 and 4.5. The first findings section (4.3) shows how the sustainability agenda features across the research population and details how sustainability features in Institutions’ vison, and values, and Institutions operations and practices. The second findings section (4.4) details how Education for Sustainability features in SDs. In section 4.5, the findings of the document analysis are interpreted within the context of the relevant literatures reviewed in Chapter 2, with implications for HEI policy discussed, then the Chapter concludes with key remarks in section 4.6.

**4.2 Research population identification, document collation and analysis process**

All UK HEIs with degree-awarding powers that have publicly available Strategic Documents (SDs) are the targeted research population. As at the time of data collection, the UK Government listed 148 HEIs on its website as those having degree-awarding powers (GOV UK, 2015). Using this list, a web search (individual HEI’s webpages; Google search) for their SDs was carried out between June 2015 to March 2016, and 128 were subsequently found.

Appendix 6 lists the 128 HEIs whose SDs were identified, the headline aggregated summary of which is presented in Table 4.1, by administrative location. This research found that Institutions Strategic Documents as they are called here, are mostly titled as Strategic Plans (68 HEIs), some name theirs as: ‘Strategy’ (25 HEIs), ‘Corporate Plans’ (17 HEIs); ‘Corporate Strategy’ (5 HEIs); ‘Our Strategy’ (3 HEIs); ‘Strategic Framework’ (2 HEIs); Strategic Vision (2 HEIs); ‘Vision and Strategy (2 HEIs); ‘Institutional Plan’ (1 HEI); ‘Strategic Vision and Plan’ (1 HEI); or ‘Plan’ (1 HEI) documents. It is clear that the process of writing and then publishing these SDs is commonplace across the UK HEI sector, with all Scottish, Welsh and Northern Irish HEIs with degree-awarding powers publishing their own individual HEI SD. Moreover, 84% of HEIs (102 of the 122 HEIs) in England also published their own SDs. Again, this reiterates my original assertion that SDs matter, or (at least) are regarded as mattering in the UK HEI sector – they clearly have a purpose, as they signal strategic intent for future working.

Table 4.1. UK HEIs included in the study by devolved administration/country

|  |  |  |
| --- | --- | --- |
| Administration | No. of HEIs with degree-awarding powers | No. of published Strategic Plans |
| England | 122 | 102 |
| Scotland | 15 | 15 |
| Wales | 8 | 8 |
| Northern Ireland | 3 | 3 |
| Total no. | **148** | **128** |

Having collated the Strategic Documents (SDs) of the 128 HEIs (according to the research methodology in Chapter 3), content analysis which “*is a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying patterns*” ensued (Hsieh and Shannon, 2005 p.1278). A conventional approach to content analysis was applied as described by Hsieh and Shannon (2005). Steps taken as described by Hsieh and Shannon (2005), are:

1. *Familiarisation with the documents.*

Reading the documents word for word and understanding the documents as a whole. This enables an understanding of the context words are used, which aids in identifying words used within sustainability context as well as those generally relevant to social, economy and environmental issues.

1. *Coding without predetermined categories for classification.*

As opposed to having a predefined category/framework for examining the document content, without any prior knowledge/research that has addressed the issue of Strategic Documents in relation to EfS to draw on, keen to not overlook any aspect that might give insight on the research aims, the approach adopted was exploratory or what Attride-Stirling (2001) calls network analysis - which denotes a process of allowing the data to shape the codes which emerge. This is not to say that framework analysis and network analysis happen in isolation, as most researchers will attest to both forms influencing the process (Arranz et al., 2017); for example, in as much as I am exploring the data without predetermined framework, without prior knowledge of what sustainability is and what EfS entails, I most likely would not recognise impressions that help shape my interpretation of the data.

1. *Sorting coded contents into themes based on their relationship*

Preceding step results in a list of codes and in this stage, I am looking for patterns to cluster related codes under an interpretive basic theme. For example, as you will find below, some institutions’ SDs indicate that they are engaging only with the Environmental element of Sustainability agenda while some are engaging with all its aspects (Environment, Social and Economic), these come under the theme of ‘Sustainability Institutions’.

1. *Presenting the findings by defining themes*

The findings are presented with theme exemplars, but mostly illustrated in the form of descriptive statistics used with simple graphics to summarise and quantitatively describe the data.

1. *Links and implications*

With the themes identified and presented, links and implications within and across themes are discussed.

It is important to make clear distinctions between the forms of sustainability agenda and the forms of sustainability-learning (e.g. EfS) mentioned in the Strategic Documents which reflect in terms used in the analysis. This research finds that sustainability’ is a term used commonly in SDs. In fact, of the 128 Institutions, the content analysis found 117 had the term ‘sustainability’ in their strategic document, but it is typically used in relation to the financial or long-term sustainability of their Institutions. When referring to the sustainability agenda which is the main focus of this thesis, it was generally made clear in SDs what they are referring to; with most having sections dedicated to it, and typically using the associated term ‘Sustainable Development’ alongside sustainability. Amongst the Sustainability Institutions identified, I observed that they fall into two groups (consistent with the literature review findings in Chapter 2): that is,

* SDs within which only the environmental dimensions of sustainability is mentioned,
* and those whose SDs mention the integrated form (i.e. environmental, economic, social) of sustainability, indicating multifaceted considerations.

Hence, in this Chapter, I refer to the former as Environmental Sustainability (ES) HEIs, whilst I refer to the latter as Integrated Sustainability (IS) HEIs and both as Sustainability institutions. While it is important to specifically distinguish between these groups for clear presentation of findings and analysis, it is also important to state what the term I refer to them as ‘Sustainability institutions’ means here. The term Sustainability institution used in reference to these institutions here means Institutions who mention/ state their commitment to the forms of Sustainability in their Strategic Documents but does not go further to assume that they are indeed delivering on it.

In addition, Education for Sustainability and Environmental Education (EE) which precedes it, were both mentioned in SDs; when referring to both of them, then the term Sustainability-learning will be used, else which is being specifically referred to will be stated.

What follows in the two next sections (5.3, 5.4) is the presentation of the findings on how Sustainability learning features in institutions vision, ethos and practice within the SDs of the research population.

**4.3** **Sustainability Institutions**

Of the 128 Strategic Documents audited, some (23%) made no reference to the sustainability agenda, while most indicated a commitment to the sustainability agenda though to varying extent. As Figure 4.1 shows, of the 77% of HEIs identified as sustainability institutions, their Strategic Documents indicates most are engaging only with the Environmental element of sustainability, while a significantly lesser proportion are “*committed to all aspects of Sustainable Development*” (University of Wales Trinity Saint David, 2014 p.3). Hence as graphically presented in Figure 4.1, SDs shows 23% of the research population are not engaging with the sustainability agenda, while 77% are; 60% of which indicate commitment to Environmental Sustainability, and 17% Integrated Sustainability.

Figure 4.1. How commitment to the sustainability agenda was found within the Strategic Documents of the research population (n-128)

This is not to say sustainability related features were not found in HEIs whose Strategic Documents did not indicate they were engaging with the sustainability agenda, far from it, as Economic and Social themes were found across the SDs of the research population. As Figure 4.2 indicates, SDs show HEIs whether engaging with the sustainability agenda or not, wrote about their contribution to/or wanting to contribute to local/national/global economic and social development. For example, University of Derby (2014 p.9), a non-sustainability Institution, states one of its strategic ambition is “*To IMPACT significantly on the economic and social wellbeing of our region and its place in the global economy*”. A minority (between 3% to 17% across all three groups) of the research population indicate they do already or want to contribute to economic development not only as institutions but also through empowered students and staff. While a majority (59% - 77% across all three groups) indicate they care about economic development beyond institutional financial concerns, particularly, how they are being or can benefit the economy from the local to the global level. Aspirations to contribute to ‘societal development’ -the main social theme

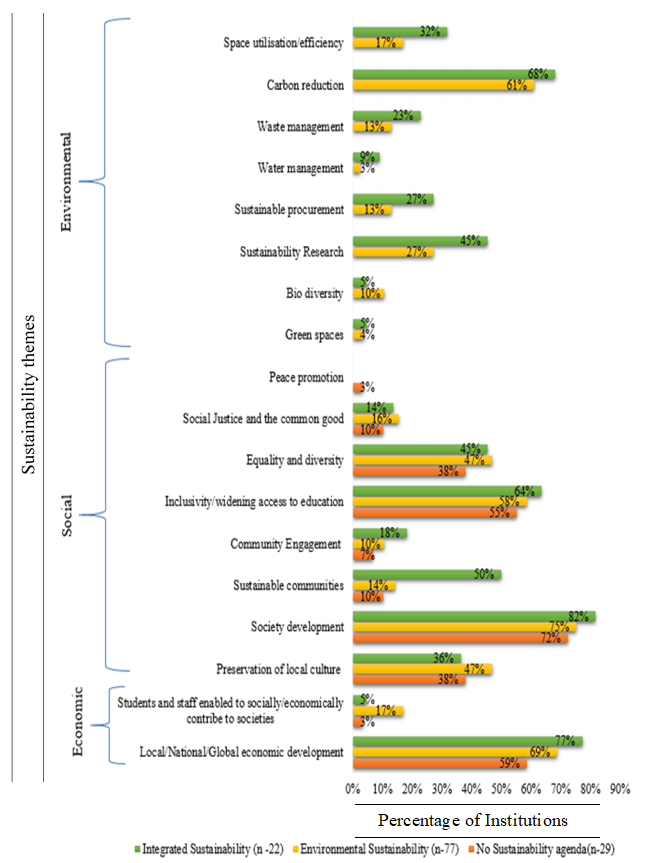


Figure 4.2. Sustainability themes identified in HEIs Strategic Documents

identified - was found in the SDs of 72% and above of HEIs across the research population. For example, one of the goals of ‘University of Manchester’ (2012 p.11) (an Environmental Sustainability HEI) is to “*provide a superb higher education and learning experience to outstanding students, irrespective of their backgrounds, and will produce graduates distinguished by their intellectual capabilities, employability, leadership qualities, and their ability and ambition to contribute to society*”. SDs show, that Institutions not engaging with the sustainability agenda indicated they had great concerns for Economic and Social issues like the sustainability HEIs, the difference in how these themes feature within the SDs being whether they are linked to the Sustainability agenda or not.

The Environmental theme however, feature only in the SDs of sustainability Practicing Institutions. As Figure 4.2 shows, the Environmental themes did not feature in the SDs of the non-sustainability Institutions. While sustainability institutions indicated in their SDs that they are embedding sustainability principles in their procurement and in the management of their estates; including carbon and waste reduction space efficiency, green space and biodiversity. And it is interesting to find that across the Environmental themes identified, those who indicated that they are focusing on the environmental aspects of sustainability, engaged less with the environmental aspect of sustainability (ES) compared with those engaging with Integrated Sustainability.

Importantly also, the finding as Figure 4.2 shows, indicates that although Environmental Sustainability HEIs identified in this research, often had priorities relating to the economic and social dimensions of sustainability in their SDs, they do not link these to their sustainability agenda. For example, aspirations to make a positive impact on local cultures and communities through social and economic development, as well as also protect the environment by better management of campuses (including reducing carbon, waste and protecting biodiversity), were relatively common. While the HEIs who stated they are integrating sustainability concerns tended to present these issues in an interrelated format, HEIs practicing Environmental Sustainability separated these issues, often having a different section for (Environment) sustainability.

## **4.4 Education for Sustainability**

The data shows like the sustainability features found across the SDs of the research population (as discussed above), relevant sustainability learning themes were also mentioned widely in SDs but tended not to be linked to sustainability learning. Figure 4.3 shows the themes that

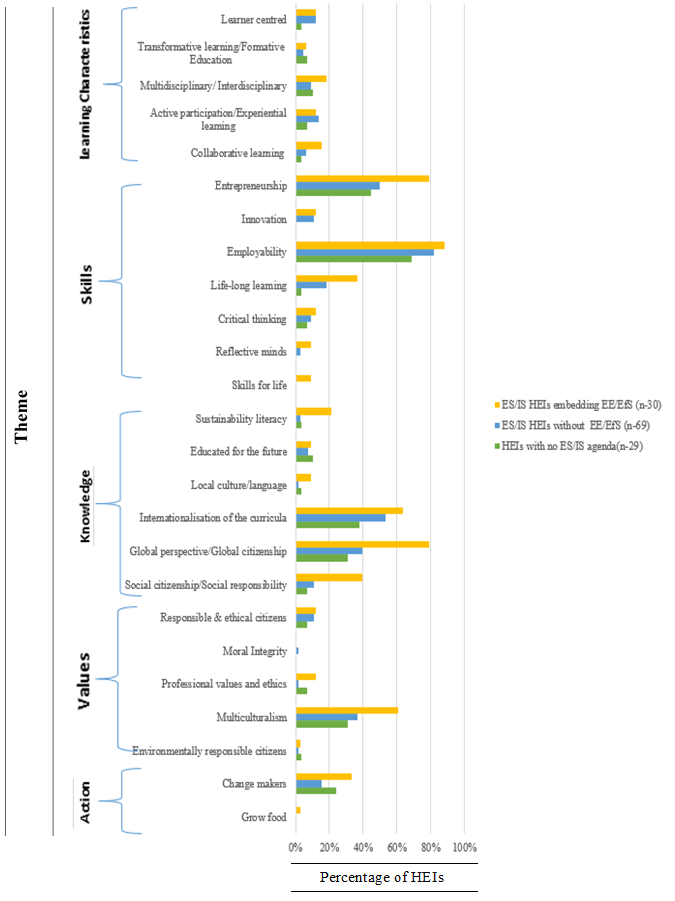


Figure 4.3. Relevant sustainability learning themes in HEIs Strategic Documents

were identified as relevant to sustainability learning which are presented broadly under five main themes: these are action focused, values, knowledge, skills, learning characteristics. While some HEIs used these themes explicating with regards to sustainability learning, for most it is stated as part of their (intended) approach to educating students, take for example three sustainability knowledge themes ‘Internalisation of the curriculum’, ‘Global citizenship’ and ‘Socially responsible citizens’ which featured widely as a core consideration in students learning across the research population and has been found to have a degree of synergy to Education for Sustainability in terms of approaches and goals (Bourn and Shiel, 2009 p.664).

Sustainability learning was explicitly mentioned in the SDs of 23% of the research population – most make specific reference to Education for Sustainability and a few Environmental Education as Figure 4.4 shows. Three Institutions indicated that they are embedding Environmental Education in their students learning *-* comprising of two Environmental Sustainability and one Integrated Sustainability institution. While 22 HEIs indicated they are embedding Education for Sustainability in their programmes of learning -these are made up of 12 Environmental Sustainability and 10 Integrated Sustainability HEIs. For example, one of these HEIs (who is based in Wales) stated that the embedding of EfS within its Institution is in recognition and response “*to the wider social and environmental contexts in which the University operates*” (Cardiff Metropolitan University p.8). Five other Institutions comprising of two Environmental Sustainability and three Integrated Sustainability HEIs mentioned both Environmental Education and Education for Sustainability in their Strategic documents; for example, University of Bristol (p3) states “*we will offer opportunities for all students to […] study issues of global importance such as environmental awareness and sustainability*”. These five Institutions whose SDs mention both ES and EfS were placed in the EfS group (as the latter includes the former), bringing the total of HEIs who are embedding EfS in their curriculum to 21% and Environmental Education 2% of the research population.

Figure 4.4. How sustainability learning was mentioned in the Strategic Documents of Sustainability Institutions

As can be seen from Table 4.2, by administrative location, apart from Northern Ireland, HEIs who indicate that they are engaging with EfS are split in the other three administrations, with Wales having the highest proportion of HEIs engaging with it. As Table 4.2 shows, of the research population, Strategic Documents indicate 100% of Northern Ireland HEIs are engaging with the sustainability agenda compared to 88% of Welsh, 72% Scottish, and 76% of the English HEIs. However, Wales has the highest proportion of HEIs engaging with the integrated form of the sustainability agenda at 38%, followed by England at about 18% and then Scotland at 12%, with 0% (0/3) of Northern Ireland HEIs indicating they are engaging with this practice. With 50% (4/8) of the Institutions located in Wales indicating they are infusing EfS in their curriculum, and 20% of the England (20/102) and Scotland (3/15) institutions respectively.

Table 4.2. HEIs with Education for Sustainability in their Strategic Plans by Administration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Administration | Sustainability | | | Education for Sustainability | |
| England (n-120) | 65% | Integrated Sustainability | 14% | 20% |
| Environmental Sustainability | 51% |
| Scotland (n-15) | 73% | Integrated Sustainability | 13% | 20% |
| Environmental Sustainability | 60% |
| Wales (n-8) | 87% | Integrated Sustainability | 37% | 50% |
| Environmental Sustainability | 50% |
| Northern Ireland (n-3) | 100% | Integrated Sustainability | 0 | 0% |
| Environmental Sustainability | 100% |

With regards to whether sustainability permeates Institutions vision and core values/ethos, the findings of the SD indicate 19% of the research population both Integrated Sustainability and Environmental Sustainability Institutions, have done this, the evidence of which I now present in turn.

**Vision statements**

Strategic Documents shows, a few (6%) sustainability institutions embed sustainability in their vision statements, that is they indicate aspirations to transform their institutional practice towards sustainability, it is however within the vision statements of the Environmental Sustainability institutions that commitment to sustainability-learning features. Most (4%) of the institutions identified with sustainability in their vision statements are from the group identified as Environmental Sustainability institutions, with the remaining (2%) Integrated Sustainability institutions.

The vision statements of the Environmental Sustainability institutions indicate they aspire for their internal institutional community, that is staff and students, to gain recognition for their commitment and contribution to addressing sustainability issues generally, with a number of them making specific mentions of contributing in various field of study through research and the graduates they produce;

“*We want Brighton staff and students to be known for their commitment to impact, community and sustainability in their chosen field*” (University of Brighton, 2012 np.).

“*Our vision is to be recognised around the world for our signature contributions, especially in global food security, energy and sustainability, and health*” (University of Nottingham, 2010 p.4).

“*Keele Vision We will be a leading campus-based university that stands out due to our unique community, our world leading research and our broad-based education that produces graduates who have a genuine positive impact across the globe. Our research will be transformational in higher education and across society more broadly and we will be internationally recognised for our professionalism, collegiality and environmental sustainability*” (Keele University, 2010 np.).

“*Make a signiﬁcant contribution to global efforts to achieve environmental sustainability*” (De Montfort University, 2011 p.4)

“*The University of Surrey [(2012 p.5)] is committed to being a leading national and international university. Our high quality teaching, learning, research and enterprise, will be delivered in a ﬁnancially and environmentally sustainable manner, within an academic community that values collegiality and professionalism, providing our students with skills that allow them to maximise their potential*”

The vision statement of the Integrated Sustainability HEIs state their goal is to embed sustainability in their day-to-day operations, that is, the activities as Institutions they engage in on a daily basis. Half of them articulate that their aspiration goes beyond their internal affairs, to impact on their local and the global community;

“*We shall continue our emphasis on sustainability, aiming for an international and ‘best in class’ reputation for our commitment to sustainable development, setting short and long- term targets to integrate all aspects of sustainability into our daily operations*” (Bangor University, 2015 p.4)

“*committed to operating in a sustainable manner*” (University of Bristol, 2009 np.)

“*We will strive to be a sustainable and responsible organisation which contributes to positive environmental, social and economic futures across the communities we serve*” (University of Gloucestershire, 2012 p.6)

**Ethos/values statements**

In contrast to the above, of some further number (13%) of sustainability institutions, who have sustainability in their values/mission/ethos/principles statements, most of which are Environmental Sustainability centred (8%), while the remaining are Integrated Sustainability (5%), it was in that of the latter group commitment to its educational imperative was mentioned.

The Environmental Sustainability HEIs tend to link their financial sustainability/societal economic development with core Environmental Sustainability issues, that is resource management, with a few specifically mentioning it is not only beneficial for them as an institution or for the world at presents, but also for future generations to come:

*“We aim to achieve this through high-quality education, research and enterprise activities. Success is demonstrated by signiﬁcant cultural, economic, environmental and social contributions at local, national and international scales”* (University of Greenwich 2012 p.4).

*“We are committed to the twin principles of sustainability and social responsibility as foundations for all our activities”* (Aberdeen University, 2011 p.7).

*“Environmental & Financial Sustainability We will exploit our strengths in research and education to achieve progressive social, environmental and economic benefits, locally, nationally and internationally. We will manage resources to deliver a sustainable and long-term future for the University”* (Durham University, 2010 np.).

*“Maintain and develop a campus that is both of outstanding quality and sustainable”* (University of East Anglia, 2012 p.13).

*“Committed to sustainability”* (Teesside University, 2012 p.9).

*“We will be environmentally and ﬁnancially sustainable and resilient”.* (Edinburgh Napier University, 2014 p.2).

*“We will be committed to environmental sustainability, setting and meeting the highest possible standards across the full range of our activities”* (University of Manchester, 2012 p.4).

*“Respect for the environment: we will manage the School’s resources in ways that meet the needs of the present without compromising the options of future generations”. (*London School of Economics and Political Science, 2011 p.2).

*“The development of our staff, estate and physical resources, as the bedrock of a professional and supportive academic community, and with equality, diversity and environmental sustainability to the fore”* (Norwich University of the Arts, 2014 p.3).

*“We are committed to (...) Financial and environmental sustainability”* (London School of Hygiene and Tropical Medicine, 2012 p.2).

While the Integrated Sustainability institutions, though also mentioned economic, social and financial issues most placed emphasis on engaging with sustainability learning and teaching as a means to contribute to addressing these issues:

“*Sustainability Planned sustainable development (financially, socially and environmentally) is crucially important to securing our future*” (Brunel University, 2012 np.).

“*Innovation Our contribution to the sustainable development of communities, organisations and society is built on our ability to innovate through research, enterprise and our own practice*” (University of Bedfordshire, 2012 p.3).

“*Through teaching, learning, research and innovation we work in partnership with our students, staff, community, business and the professions to drive social inclusion, economic prosperity and sustainability in Plymouth, across the nation and throughout the world*” (Plymouth University, 2015 p.5).

“*Sustainable development through a system-based approach to delivering meaningful and relevant educational pathways we will promote learning and social responsibility that supports "development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (Brundtland Commission, 1987) (University of Wales Trinity Saint David, 2014 p.2).

“*A commitment to health, well-being, sustainability and sustainable development*” (University of Central Lancashire, 2013 p.4).

*“Sustainability Through education and research we are aware of the ecological limits of the planet and promote the careful use of resources”* (University of Exeter, 2015 p.7)

An interesting observation is that though UNESCO (2014) stated that a Whole Institution approach does not exist, however, amongst those with sustainability in their vision/ethos, commitment to a Whole Institutions approach is found, albeit at a very small scale (1%).

*The sustainability […] aligns with the employability, business development and local engagement agendas, whilst at the same time improving staff and student engagement opportunities in sustainability. The strategy plays to the university strengths in areas of learning and teaching for sustainability, local and international partnerships and a whole-of-institutional approach to sustainability*. (University of Gloucestershire, 2012 p.22)

Though these institutions, which is 19% of the research population, indicate that they are working with sustainability visions or ethos, which they state are a core contributor in accomplishing their Institutional mission(s), it is important to bear in mind only 2% who stated sustainability in their vision/values is a result of an aspiration or fundamental ethos of their collective community, that is their staff (both academic and non-academic) and students (both present and alumni). That is not to say the other HEIs may not have consulted their communities, but it could also mean that this is a top-down transformative change being promoted by senior management or/and a select few decision-makers; SDs give no indication of how it is being received. Either way – whether it is top-down or collectively promoted from the bottom up they do feature as strategic priorities of which best practice included communicating it to and engaging stakeholders to enable its effective delivery (Johnson et al, 2014).

Comparing between those who have sustainability in their values/ethos and does who do not, the data indicates the former are more likely to engage with the EfS agenda. Majority of the research population who their SDs indicates are engaging with Education for Sustainability (23%) are Environmental Sustainability Institutions but Integrated Sustainability institutions particularly those who have sustainability embedded in their vision/ethos are significantly more likely to indicate commitment to EfS. Table 4.3 however shows that 89% of Integrated Sustainability Institutions compared to 20% of Environmental Sustainability institutions who have sustainability principles feature in their vison /ethos statement indicate that they are engaging with the EfS agenda. Also, when compared by overall population within these two groups of Sustainability Institutions, Integrated Sustainability Institutions have a higher proportion engaging with the sustainability agenda compared with Environmental Sustainability institutions.

Table 4.3. Institutions embedding EfS by key groups

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Total number: sustainability in SD | Sustainability in values/ethos | | EfS in SD | | Total number:  EfS in SD | |
| Integrated Sustainability | 22 | Yes | 9 | 8/9 | 89% | 13/22 | 59% |
| No | 13 | 5/13 | 38% |
| Environmental Sustainability | 77 | Yes | 15 | 3/15 | 20% | 14/77 | 18% |
| No | 62 | 11/62 | 18% |

### ***4.4.3 What was learned about if or how EfS is being operationalised***

There are several ways HEIs aspirations to implement EfS could be operationalised, including embedding it within existing curricula, or as discrete modules – some SDs are explicit on how they are doing this, and some are not. As presented in Figure 4.5, one university has chosen to strategically prioritise the use of specialist courses on sustainability, though, another Institution indicate they are developing specialist sustainability courses as part of their more general efforts on embedding sustainability into their curricula. 9% very generally mention about EfS being included in their curricula and pedagogy. A further 10% indicated they are embedding EfS across all types of curricula and/or all disciplines. For example, Anglia Ruskin University (2015p 6) states it “*continue[s] to incorporate sustainability across the curriculum and embed it generally in student life and activities*”. Several universities also explicitly mention that they will support staff in this process of embedding EfS within curriculums; for example De Montfort University’s (2011 p.30) strategic plans states delivering on their EfS agenda will require “*providing training and development opportunities to staff on […] sustainability issues*”; and University of Gloucestershire (2012 p.17) states one of its ambition is to “*work with the Teaching, Learning and Innovation team to support the latest teaching development associated with Education for Sustainability*”.

Figure 4.5. HEIs’ approach to incorporating EfS as stated in their Strategic Plans

Amongst the HEI’s incorporating EfS (21%), only a handful (4%) indicated they are strategically prioritising its inclusion in academic processes or have set key performance indicators/targets, which could be due to the scope of different Strategic Documents or could signal that EfS is largely not being operationalised. University of Gloucestershire (2012 p.17) states it “*embed[s] sustainability into the design and delivery of teaching programmes as a required component of initial course approval and revalidation and review for all programmes*”. The Institutions with key performance indicators/targets in their strategic documents are De Montfort University (2011 p.10), which aims to embed “*education for sustainable development into the university's Teaching, Learning and Assessment Strategy*”, key indicator of success for them is “*National Student Survey result: overall satisfaction with course”;* University of Wales Trinity Saint David (2014 p.6) who appears to have an annual target to “*complete curriculum audits and develop the curriculum with due regard to the emerging sustainability agenda*”; University of Bedfordshire (2012 p.9) amongst its key measures of success is their Sustainable Development strategy focusing “*on cultural as well as practical change and on the development of future generations of leaders with a ﬁrm understanding of, and commitment to, sustainability*”; and Anglia Ruskin University (2015 p.6), with a 41% baseline on “*percentage of students who say that sustainability has been a feature of their experience*”, aims to achieve an increasing annual target of 50% in 2015, 60% in 2016 and 70% in 2017.

## **4.****5 Discussion**

The findings indicate that since Sterling and Scott’s (2008) paper, sustainability within campus management activities has progressed even further, but contrary to any belief that the predominant focus on the Environmental aspect means the Social and Economic dimensions are lacking in HEIs priorities, these findings provides evidence that all three issues dominate UK HEIs agenda, but what appears to be generally lacking is the paradigm with which they are viewed. While if the wide spread stated concern for Economic, Social and Environmental issues found in Strategic Documents translate to action cannot be known through SDs, what SDs do indicate is that they feature as strategic objectives. Some institutions (23%) do not view them through the sustainability paradigm, while the rest do; but most of which limit this to the Environmental dimension only (60%), and a few (17%) from an interrelated stance. The question this raises is therefore how to make these links between the dimensions of sustainability (Society, Environment and Economy) more explicit, and help ‘mainstream’ integrative sustainability thinking into HEIs. Sustainability training on this may be a way to bring about awareness and an addition to such trainings could be to work with institutions on a case-by-case basis, were the relevance of their existing priorities to the goal of incorporating sustainability in their Institutions is made clearer and understanding around this is further fostered. Hence, while HEI top management training features as the most urgent issue that needs to be addressed to enable EfS flourish, through a Whole Instituting approach (infusing of sustainability in all aspects of Institutions operations and practice) (UNESCO, 2014 p.127) and rightly important, this research however, indicates the focus of such training need to start from or ensure focus on paradigm shift which could be the catalyst for the Whole Institution approach it seeks to promote.

The findings also indicate that although there are lots of relevant EfS practices that HEIs indicate are being incorporated in their students learning (e.g. Global citizens, Multiculturalism, Responsible and ethical citizens), most do not indicate commitment to EfS. The research identified sustainability learning themes across the Strategic Documents that had widespread relevance for the UK HEI sector as a whole, which could potentially aid the strategic advancement of EfS within UK HEIs. Specifically, the data revealed that a number of Institution are engaging with learning initiatives including Global citizenship and Social citizenship, which are principles sustainability promotes with EfS enabling a paradigm shift to view them and see their linkages (see Chapter 2.2), but most do not appear to link them to EfS. It was only 21% (27/128) of the UK HEIs that explicitly stated commitment to EfS. This raises the question of how to harness these existing, but currently lost opportunities to advance EfS, which again in my opinion may also be a matter of training for paradigm shift, by highlighting to the HEI community what they have already committed to doing and how it links with EfS.

This finding that EfS principles largely do not permeate Higher Education core purpose is not surprising giving that students have been calling for their institutions to do more regarding EfS repeatedly for the past eight years. The Higher Education Council for England (HEFCE) through the Higher Education Academy (HEA), alongside the National Union of Students (NUS) in 2011, initiated a national annual survey of students. These surveys assess students’ attitudes towards, and expectations regarding sustainability (Bone and Agombar, 2011; Drayson et al., 2012; Drayson, et al, 2013; Drayson, 2015; NUS 2016, 2017, 2018). These surveys now form a unique, large (around 52,000 respondents) and continuous data set of student attitudes to sustainability, which has over the years consistently indicated between 57% to 63% of the students want their institutions of higher learning to educate them about sustainability.

The data indicates where there is strong government support for sustainability, there is commitment to Integrated Sustainability which in turn is linked to engagement with Education for Sustainability, though the results do also indicate that Institutions willing to engage with the agenda will do so even without central government as an external driver. Indeed, Government support for sustainability has waned overtime across all UK administrations, although there does continue to be stronger Welsh Government leadership in this area (UK National Commission for UNESCO, 2010; Glover et al., 2013). This research shows Welsh HEIs have a relatively higher percentage (38%) of engagement with the Integrated Sustainability agenda, compared to it English (17%), Scottish (13%) and Northern highland (0%) counterparts. That higher percentage of HEIs within administration with known Government support, supports the assertions (UNESCO, 2014) that Government support is vital for the uptake of IS. However, that HEIs in other administrations with declining Government support are still engaging with the Integrated Sustainability agenda, it can therefore be assumed that Institutions who wants to transform towards sustainability are doing so undermining the external environment. This corroborates Huerta and Zuckerman (2009) findings, which indicates that HEIs, if willing, can break away from external societal influences to achieve change in Education and learning. That is not to say that governance-related issues (be they related to matters of government or not) may have not contributed to the initial uptake of the Integrated Sustainability and EfS agenda, however even with declining support, a few HEIs still indicate a willingness and commitment to keep embedding them within their Institutions. With the continuing withdrawal of funding by government from HEIs with students who (which series of NUS survey from 2011 to 2018 indicate support for the infusion of EfS in their curriculum) now responsible for their fees and projected to become more and more influential in driving the affairs of their Institutions (Department for Business Innovation and Skill 2011; The Office for Students, 2018), it will be interesting to see if/how the strategic purpose of HEIs with regards to sustainability and EfS will be impacted.

Bilodeau et al (2014) finds that without sustainability and its educational agenda being in Institutional priorities, it signals lack of commitment, which crucially tends to lead to disengagement between the key actors vital to progressing EfS within Institutions. However, while Strategic Documents can help guide and motivate those within its community towards achieving a shared Institutional goal, they do however need to be backed by strong leadership to avoid the case where EfS becomes an ignored or lower prioritised (perhaps even tokenistic) goal. We find here that 21% of the UK HEI sector indicated a general commitment to EfS, and only 3% have set targets and/or Key Performance Indicators (KPIs) to monitor their progress. Typically, a stated strategic priority is accompanied with sets of targets/measures (KPIs) that enable institutions to monitor progress (Johnson et al, 2014). That KPIs do not feature in Strategic Documents could be as a result of the scope of the different Documents, but where other priorities have stated clear KPIs but EfS does not (as observed in several cases here), it could signal that though it is being publicly stated it is less held compared to its other priorities. This is significant as traditional strategic planning methodologies recognise that simply stating goals without targets or KPIs, which necessitates assigning clear responsibilities and resources commitment, leads to no result (Johnson et al., 2014). The case of lack of genuine leadership commitment to sustainability as an important contributing factor to limited uptake of the EfS agenda is illustrated by Falkenberg and Babiuk (2014), who found that the lack of commitment towards sustainability poses as a major obstacle to having it play any major role in education programme. Where they are strategically prioritised on the other hand, as Bilodeau et al (2014) note, it helps promote the role that sustainability can play in the Institutions, enabling the journey towards a whole institution approach. Strategic commitment to sustainability drives collaboration and partnerships enabling culture change, increased operational efﬁciencies, stewardship, advances in research innovation and student engagement (in sustainability solutions within their Institution and beyond in the wider community which they find fulfilling), also attracting funding (Falkenberg and Babiuk, 2014). Hence, I recommend the following three features in relation to SDs for those HEIs truly committed to progressing EfS within their Institutions:

* Commitment to sustainability is clearly stated in SD, permeating visions, ethos, core principles and practices.
* Commitment to EfS is clearly stated as a core educational purpose and as above.
* EfS KPIs (such as measures the progression towards training top management and staff on sustainability principles, as well as EfS inclusion in curriculums) are explicitly included within SDs or any associated documents.

That these points above begin to reflect in Strategic Documents will indeed signal a vital shift taking place with regards to EfS as Higher Education core educational purpose, serving as an indication that we are actually headed in the right direction.

**4.6 Concluding remarks**

This chapter empirically explores if sustainability principles permeate the explicitly stated principles and core guiding purposes of UK HEIs, as per their externally-facing Strategic Documents. In particular, I ask to what extent EfS is being strategically prioritised across UK Higher Education.

The content analysis of the Strategic Documents indicates that sustainability is still largely operational though it is in estates to a greater extent than ever, whilst it is yet to be permeated more deeply into the stated vision, ethos and values of a (UK) HEI, this, as such, only goes to emphasise that EfS is still not a strategic priority in most UK HEIs. Whilst 77% of UK HEIs SDs indicate commitment to sustainability only 21% indicate they are engaging with the EfS agenda, with 19% having sustainability in their vision/ethos, however only 3% stated that their SDs were developed collaboratively with the members of their community. This is not to say culture change may not be happening at a scale other than this, but from what Strategic Documents can tell us, there are indications that it is relatively not the norm. The infusion of EfS within Higher Education curriculum may still appear be a far distant vision, though this research finds EfS relevant commitments feature widely across HEIs strategic documents but indicates they are not linked/viewed as such, suggesting management and staff training for a paradigm shift towards sustainability could very well aid most UK HEIs on the partway towards enabling EfS.

Given how Strategic Plans provide a unique – and so far untapped – route to exploring what university managers across the UK explicitly state as being important to themselves and their university communities, this chapter has a very clear empirical contribution to the EfS field. This research helps provide a snapshot of where we are now, in terms of infusing sustainability in core educational purpose, hopefully enabling us to consider where we really want to be, and hopefully, this research helps to open up vital conversations on if or how we intend to get there. What we do know, is that Strategic Documents play a vital role in progressing EfS within Institutions, indeed for HEI managers wanting to put into practice their declaration of commitment to EfS then I recommend they state this publicly as a priority including KPIs for measuring progress, which implies ongoing implementation.

Moreover, this Chapter also raises a number of questions/leaves some questions unanswered as Strategic Documents are aspirational documents intended to provide high-level strategic direction, hence not much can be learned about if or how EfS is being operationalised. Strategic Documents demonstrate a ‘willingness’ by institutions but nevertheless do not indicate their level of success or degree of implementation in situ (Johnson et al., 2014). This Chapter has identified the aspirations of the institutions at large and found that 21% of them are engaging with the EfS agenda. In the next chapter I delve deeper into how they are operationalising these aspirations, specifically by focusing on how the individual leading its implementation set about achieving students’ action for sustainability and how this is impacted by the institutional support in place.

# **Chapter 5 Education for Sustainability implementation in Higher Education: aims, approaches and outcomes**

## **5.1 Introduction**

Having investigated the strategic importance afforded Education for Sustainability amongst UK HEIs in Chapter 4, the focus now turns to in-depth investigation to ascertain what their actual EfS aim is (students’ action?) and the perspective underlying their approaches to EfS implementation – that is how the individuals responsible for EfS implementation are driving it. This in-depth investigation which is based on the interviewing of UK HEIs EfS leads (that is the individuals driving/leading the embedding of EfS) is presented over two Chapters, as while this Chapter focuses on the perspectives and models underlying the curriculum designs, the following Chapter considers the institutional context within which EfS learning is taking place, in both cases the data is viewed in relation to the outcome - students engaging in actions for sustainability. This Chapter will begin by presenting the research method in section 5.2, before presenting the research findings in sections 5.3 to 5.5, which are discussed in sections 5.6, ending with a few concluding remarks in section 5.7.

**5.2 Research population identification, Interview data collection tools and analysis process**

In Chapter 3, the methodological relevance of Interviews as part of the research design was elaborated upon. Now, herein, I briefly outline the key features of the Pre-interview questions and an interview protocol (see Appendices 1 and 3) which were used in this research, before I provide details of the analysis process (presented in this section), the process of identifying and securing participants (presented in subsection 5.2.1) and the pre-interview pilot done (subsection 5.2.2).

The pre-interview questions aimed to collect relatively standard background information on the research participants in order to have more time to explore the issue understudy deeper during the interview sessions.

As discussed in Chapter 3, whilst there is no perfect interview that can provide the full story (Gerson and Horowitz, 2002), semi structured interview which lies somewhere near the middle in a continuum between a structured questionnaire and listening to other people’s natural conversations (Gillham, 2000), is very suitable for gaining useful insights on an issue (Blumberg et al., 2014). The interview questions were semi-structured, rather than an overly structured schedule of questions; the interviews were based on ‘protocols’ that consisted of outlines of areas or topics (King, 1994), which were inspired by Chapter 2’s literature review and the findings of the Strategic Documents audit in Chapter 4. Specifically, the protocol was based around four broad areas (see Appendix 1 for the interview protocol):

1. institutions aim of delivering EfS;
2. how they are going about it;
3. experiences with regards to Students action for Sustainability (SAS); and,
4. any challenges and possible ways these could be addressed from HEIs leads perspectives.

Interview participants were spread out across the United Kingdom, so all the interviews were done by skype and telephone – although such mediums “*cannot completely replace face to face interaction, they work well as a viable alternative […] for qualitative researchers, [as they allow one] to contact participants [in varied locations] in a time efficient and financially affordable manner, thus increasing the variety of samples*” (Lo Iacono et al., 2016 p.1).

In terms of what my data consisted of: the written responses to the pre-interview questions were textual, while the interview data came from audio recordings which were transcribed to text. Together, these created a large qualitative dataset. The mean average time for transcribing and editing per minute was 4mins and the audio recordings per participant ranged between 24minutes 39seconds and 69minutes 86seconds, as Table 5.2 shows.

The transcript data were coded under the broad themes stated in box 6.1 using NVivo qualitative data management tool, and then thematic analysis ensued as the research design in Chapter 3 specifies. Following the process of content analysis to thematic analysis as elaborated on in Chapter three, all interviewees notes were carefully read, and coding of the contents ensued. The process of content analysis is cyclical, as it required making initials codes then revising the notes to ensure all relevant content has been done. With coding completed, thematic analysis ensued, which is bringing related codes together under a common/central theme.

***5.2.1 Securing interview participants***

As the research design in Chapter 3 specifies, and restated in the introduction of this Chapter, the total population of UK HEIs embedding Education for Sustainability within their curriculum at an institution/school-wide level are the targeted research participants. While some institutions are identified in Chapter 4 through the Strategic Plans audits, it is also important to ascertain whether or not there are any other HEIs who could be engaging with EfS. Indeed, though EfS may not feature in their SD, EfS could still be mentioned in associated institutional documents (e.g. policies, strategy). For example, sustainability could feature as an overarching, headline priority in an HEI’s Strategic Documents, but EfS may only then appear in a subsidiary (perhaps, even, internal) associated strategy document.

Table 5.1 shows in considering the population of UK Government approved HEIs (148), this research identified other EfS HEIs beyond those who the Strategic Document audit indicated are embedding EfS within their curricula mainly through a web search of known UK EfS sources. Through the Strategic Documents, 27 HEIs were identified as embedding EfS within their curriculum as Chapter 4 shows. Five other sources beyond HEIs Strategic Documents (see Chapter 4) were searched between June to October 2017, to find out if there are any other EfS practicing HEIs as the possibility that there may be other HEIs engaging with EfS though it may not feature in their Strategic Documents was considered. These sources are the key EfS bodies/projects/notable experts within the HEI sector: in no particular order, the first of the five source that helped highlight other relevant HEIs is the Responsible Futures (RF). RF is an EfS auditing and awarding body, an accredited initiative by the National Union of Students (NUS) which was recently in 2015 launched with eight UK HEI participants in its first/trail round of auditing (NUS, 2016). The second source is the Green Gown Awards (GGA). GGA which was established in 2004, is the most recognised awarding body for sustainability initiatives by HEIs across the UK. It has a range of categories for awarding best practice and is led by the Environmental Association for Universities and Colleges (EAUC) and amongst other local cross agency steering group and organisations (Green gown awards 2018). HEIs who have been highly commended or have received awards in the course and student engagement category (14 excluding vocational aspect) since its launch in 2004 to 2016 were included. The third source was by National EfS projects, of which two were identified: ‘The Green Academy’ which was launched by the UK Higher Education Academy (Martin, 2015) in 2011 to help Higher Education institutions to embed EfS into their student experience, seven institutions who took part in its 2011 luncheon programme; also, the ‘Hybrid PBL for Sustainability Education’ (HPBL), another Higher education academy funded initiate - Hybrid problem-based learning explores, develop and disseminate pedagogies and educational resources for sustainability education based on a 'Hybrid' problem-based learning (PBL) approach (2015). Three institutions collaboratively worked on this programme. The fourth source by which HEIs embedding EfS within their curriculum were identified are by Education for Sustainability experts. One Institution with a notable EfS experts which did not come up in any of the other sources was also included in the list. While these sources (Green Gown Awards, Green Academy,(Responsible Futures, Hybrid PBL for Sustainability) may provide us with information regarding various EfS activities/projects taking place within HEIs, what they do not tell us is the strategic aim with which students learning is being approached (knowledge/understanding or action) and importantly, the perspectives underlying their EfS implementation - realm/mechanisms (Governance, infrastructure, curriculum) driving/leading to these actual events (Core, co and extra- curriculum programmes), and in turn the outcomes in terms of students (in)actions for sustainability (see Chapter 3.3). Insights on these crucial issues of HEIs EfS aims and the mechanisms and structures at play, are the core gaps which this Chapter aim seeks to address. Hence, the focus here was to identify HEIs engaging with the EfS agenda in any form, then invite them for the interview aiming to investigate these matters. Bringing the names of HEIs found in each source together to form a master list (with consideration for double counting as some HEIs were found in more than one source – see Table 5.1, a total of 41 HEIs were identified as engaging with the EfS agenda.

Table 5.1. How Institutions feature across sources and took part in the research (base: 41)

|  |  |  |  |
| --- | --- | --- | --- |
| Clusters | No of HEI | No of HEI who confirmed they are EfS active | No of HEIs who took part in the research |
| SD, GGA, GA, RF | 1 | 1 | 1 |
| SD, GGA,GA | 1 | 1 | 1 |
| SD, GGA, RF | 1 | 1 |  |
| SD, GA, RF | 1 | 1 |  |
| GA, RF, HPBL | 1 |  |  |
| SD & RF | 1 | 1 | 1 |
| SD & GGA | 3 | 1 | 1 |
| SD & GA | 1 |  |  |
| GGA & HPBL | 2 |  |  |
| GGA & RF | 1 |  |  |
| SD | 18 | 7 | 3 |
| GGA | 5 | 1 |  |
| GA | 2 | 1 | 1 |
| RF | 2 | 1 | 1 |
| NE | 1 | 1 | 1 |
| Total No | **41** | **17** | **10** |

\*SD (Strategic Documents), GGA (Green Gown Awards), GA (Green Academy), RF (Responsible Futures, HPBL (Hybrid PBL for Sustainability), NE (Notable expert not identified in other sources)

All HEIs identified as embedding EfS within their curricula were contacted. Using this list of 41 HEIs identified as engaging with the EfS agenda through the six sources above, a web search ensued (individual HEI’s webpages; Google search) to confirm if they are still practicing and to identify the relevant persons responsible for/leading these institutions EfS agenda so as to invite them to take part in this research. Where email details of EfS leads were available (e.g. on their Institution’s website), they were sent emails directly, with relevant details about the research provided, to invite them to take part in the study and the option to request for further details. The email also asked recipients to kindly advise of the person responsible for their institutions EfS activities if they are not the one (see Appendix 7 for a copy of the standardised first contact email used), in which case the email was redirected to the relevant persons. Where there were no contact details of EfS leads on institutions’ websites, their institutions switchboards were contacted; interestingly most switchboards were unable to identify the relevant persons and, in such cases, roles closely associated with EfS (particularly those with sustainability-related titles) were contacted and this sometimes led to the relevant person being identified. Of the 41 HEIs contacted by means of email correspondence and (initial contact/follow-up) telephone calls, 22 responded: five were no longer active in terms of EfS; 17 confirmed they have an active EfS agenda (see Table 5.1); two were unavailable due to sickness and maternity leave (and had no suitable substitute); two others declined to take part, but did send comments by email; while the remaining 13 HEI EfS leads indicated their interest to take part in the interview, but three were unable to hold as no concrete plans were made within the data collection timeframe.

|  |
| --- |
| Box 5.1. Total population sampling technique (Lund Research, 2012):   * Define the characteristics of the population. * Make a list of the entire population * Contact all to take part in the research |

As the purposive sampling technique utilised to secure the research participants laid out in this section indicates (see Box 5.1), appropriate and reasonable steps were taken to include HEIs actively embedding EfS within their curriculums in this research (Lund Research, 2012), however, of the seventeen, ten (numbered 1 to 10) accepted to and did take part in this research. These ten research participants comprise of nine academics (i.e. staff with teaching responsibility) and one professional staff (who doesn’t have teaching responsibility); the dates they were interviewed, and the duration are tabulated in Table 5.2, also key details about them are summarised in Table 5.3 which will be referred to throughout this Chapter.

Table 5.2. Date and duration of research participants interviews

|  |  |  |
| --- | --- | --- |
| **Interview code for the respective**  **HEI EfS lead** | **Audio recording time per respondent** | **Date of interview** |
| 1 | 39min 43sec | 16/06/2017 |
| 2 | 32min 37sec | 17/07/2017 |
| 3 | 35min 42sec | 31/07/2017 |
| 4 | 39min 45sec | 11/09/2017 |
| 5 | 24min 39sec | 12/10/2017 |
| 6 | 31min 49sec | 25/10/2017 |
| 7 | 54min 03sec | 26/10/2017 |
| 8 | 54min 17sec | 30/10/2017 |
| 9 | 70min 26sec | 02/11/2017 |
| 10 | 66min 07sec | 13/11/2017 |
| ***Average time:*** | ***44min 90sec*** | ***-*** |

As Table 5.1 shows further to the 27 HEIs whose strategic document indicated are engaging with the EfS agenda, 14 others were identified through these other (web) sources searched. While these 14 HEIs without strategic commitments to EfS were found through several sources which overlapped in some cases (that is either the GGA (36%), GA (14%), RF (14%), NE (7%) or in a combination of GGA and HPBL (14%), GGA and RF (7%) or GA, RF and HPBL (7%)) the majority (57%) are recipients of Green Gown Awards. Comparing these HEIs without and those with strategic commit to EfS, as the overlaps in Table 5.1 shows, GGA featured in both groups. Interestingly, only a minority (22%) of the HEIs who indicated strategic commitment to EfS have Green Gown Awards compared with majority (57%) of those who do not have strategic commitments to EfS. However, a majority (57%) of the HEIs with strategic commitments to EfS confirmed that they are EfS active, compared to only a handful (14%) of those without strategic commitment. HEIs with both strategic commitment to EfS and Green gown award(s) are mostly active (80%). This means compared to HEIs without strategic commitment to EfS, those with strategic commitments are much more likely to be engaging with the EfS agenda, and significantly higher when they also have a Green gown award.

This group with EfS as a strategic priority also make up majority (7/10) of the 10 HEIs who actually took part in this research; either featuring as having EfS in SD (3/10) or having EfS in their SD alongside GGA/RF/GA (4/7). While the remaining few (3/10) research participants took part only in either Green Academy (1/10), Responsible Futures (1/10) or have a Notable practitioner (1/10). None with only a Green Gown Award or who were on the Hybrid PBL for sustainability project took part. Hence, a majority (7/10) of the HEIs who took part in this research have EfS as a strategic priority, however whether having EfS as a strategic priority or not has any bearing on HEIs EfS outcome is not known but the interview findings will be analysed comparing both groups (see section 6.3).

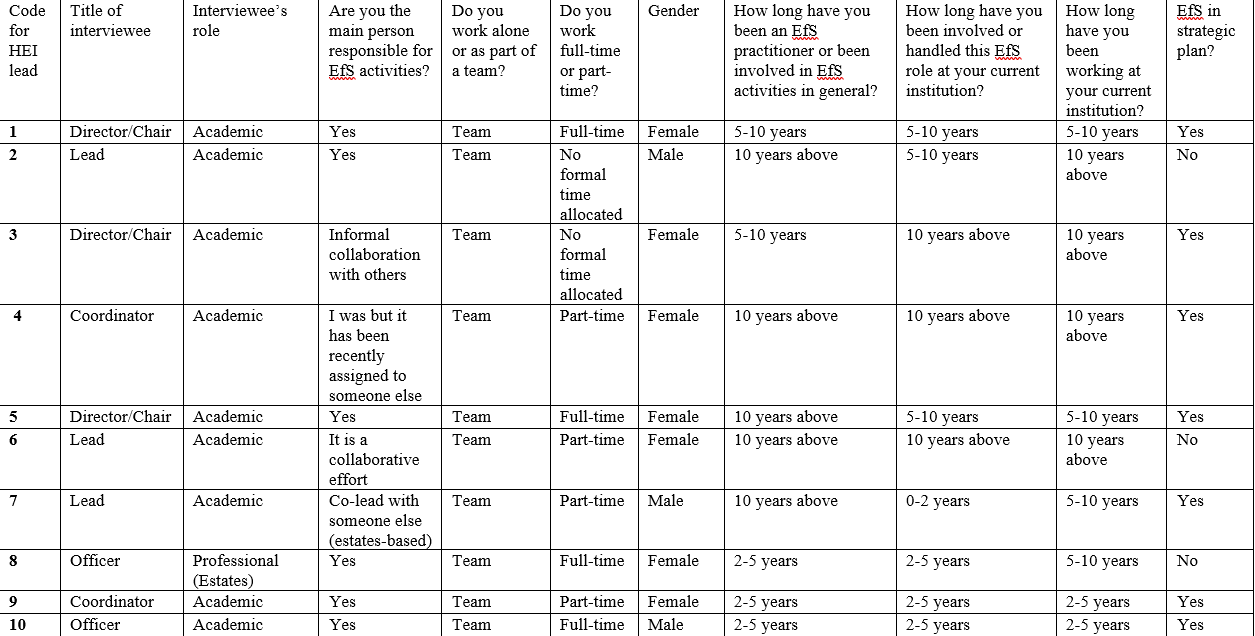
### ***5.2.2 Pilot research***

Prior to collecting the main data, in June 2017, pilot interview was conducted. Connelly (2008), recommends pilot study sample size should be 10% of the main population size planned for the actual research study, though this tends to be an issue for quantitative studies which typically may end up with a main population size not proportionate to the pilot population which was based on initial projections, for qualitative research like this, much more accurate calculations are made, as they typically have very small numbers of participants, (Guest et al., 2006), hence the impact of the final sample size is not expected to be very great (Ismail et al., 2017). *Pilot studies guide the development of the research plan, as the smaller (pilot) study informs and gives feedback to the larger (final) study. Based on this feedback, the researcher can make adjustments to and refine* [data collection plans] *before attempting the final study* (Ismail et al., 2017 p.2). Though interview studies are known to commence without pilot, whereas the first few interviews are done, the researcher analyses them (listens to the recordings or read through the transcripts), as a means to ascertain if improvements should be made to questions or generally how they are introduced to participants, or even new topics for discussion may be identified and added to future interviews (Teijlingen and Hundley, 2001). This is known to be effective, hence some have argued that pilot studies are not necessary in qualitative approaches (Holloway, 1997). Some others argue pilots are useful for novices to interviews as well as even experts if they are attempting a new way of interviewing (Janghorban et al., 2014; Ismail et al., 2017). As such, the benefits of pilot studies for a researchers’ experience and professional competence are consequently, important for both novice and expert researchers. Having never done research interviews by means of Skype and telephone before, this was a new approach to me and pilot was crucial to ensure not only the suitability of my pre-interview plans and protocol but also to build my confidence to carry out the main interviews.

An issue that was important to consider was whether the pilot study participant should be from the main research population, which in this case it was. Pilot study is advised to be done with sample conversant in the area being studied (Janghorban et al., 2014; Ismail et al., 2017) and with individuals other than those who will be part of the main study. The latter however, researchers acknowledge tends to be difficult particularly when the participant selection criteria is narrow and even finding suitable participants (which may be few) is difficult (Ismail et al., 2017). There was very little if any room to manoeuvre with regards to having a pilot study with a sample population that will not take part in the main research population, having secured 10 main research participants who meet the criteria to part take in the main research. That one (reflecting 10% of the research population) of these 10-research participants was the pilot study participant for Teijlingen and Hundley (2001) is a tricky one, as people might find it difficult to partake in the research twice (pilot and main study), which may impact on the sample size. In contrast, for Janghorban et al. (2014), having same participant take part in the pilot and main study creates familiarity between the researcher and the participants, allowing both of them to behave more naturally later in the main research study. Jakobovits and Lambert (1962) however cautions that repeating an interview can result in loss of meaning or the interviewee losing interest in the research. Taking these authors points into consideration, with only a very small change to the research protocol coming out as recommendation from the pilot study (as the following paragraph shows), the interview was not repeated to avoid loss of interest of the interviewee and what may become a meaningless further section of repeating what had already been said effectively. The approach applied here can be viewed as a cross breed between a pilot study and gaining insights from the first few interviews in a research not commencing with a pilot study, the main difference being the pilot participant was aware it was a pilot hence willing to give useful insights on their experience at the end, which helped shape research plan for the other interviews.

The key issue that came up during the pilot session was that some questions in the interview protocol were similar and came across as (overly) repetitive. To address this issue, it was important to inform and essentially pre-warn participants (before asking them the actual

Table 5.3. Summary table on Institution’s Education for Sustainability leads



question) when certain guiding questions may be perceived as being similar and thus thematically repetitive. One such instance, for example, was when asking the EfS interviewees for their perspectives on one particular issue, but from both (1) their own individual perspective; and then (2) also from their official institutional point-of-view (e.g. as per their universities’ Strategic Plan. This slight adjustment made it into the interview protocol based on the small-scale preliminary interview feedback proved useful in the main research, as it enabled a smooth transition in discussions.

Also, the pilot interview increased my confidence in being able to carry out the interviews on Skype and telephone though I had to deal with a few issues that did not arise during the pilot case. On a few occasions, either due to technical difficulties or interviewees changing location poor internet connections or phone network occurred. However, because this was my first time of conducting research through such means, I was alert to learning as I go along, hence tended to leave enough time around interviews which was very useful as sometime resolving issues with which came up could be a case of switch from skype to phone or waiting for someone to change their computer or even location.

Thus: whilst carrying out a pilot study does not guarantee all issues with a research plan are addressed, it does increase ones confidence in carrying out the main/other interviews and in making any further adjustments to the research plan that may arise, hence a step in the right direction towards ensuring the research aims and objectives are met (van Teijlingen and Hundley, 2002).

## **5.3 Higher Education EfS aim**

A range of responses were elicited from the research participants regarding the aim of their EfS agenda, which indicates that they are all engaging with the EfS behaviour change agenda. Half of the research participants (5/10), in particular, those with formal EfS roles indicated that their institutions are working to normalise sustainability behaviours in their students personal/professional lives. For example, HEI lead 1 said that they are working to have sustainability “*become part of [students] everyday way of life […], part of their normal lives*”. HEI 7 states “*the ultimate outcome [is students] understanding more and valuing more the sustainability agenda, and then changing their behaviour*”. Another example is in HEI 6 where they want their students to be *“equipped with the knowledge and skills to address un sustainability in the world and to lead change […], in the area of work that they are going into, but also in their personal life”* (HEI 6 EfS lead). A further small number (2/10) of HEI leads with formal EfS roles, also expressed a desire for their students to be able to take civic and persuasive actions; for example,one HEIlead stated they aspire for students who “*care more about […] social well-being and act*” (HE1 lead 7). A few (2/10) HEIs lead on the other hand, responded to this question at a personal level; For HEI 3 which has no formal EfS role, the EfS lead stated “*I personally am very committed to behaviour change* [the desire is to give] *students experience which will expose them to EfS that make sure they graduate with a level of expertise in EfS, that sets them up for […] future studies*”. Even with a formal EfS role in HEI 9, the lead found this a difficult question to answer because at the time of this research the Institution was at a transitionary period due to change of vice chancellor but responded at a personal level which indicated a focus on behaviour change. As the HEI lead in question puts it “*because work is shifting quite a lot at the moment we just had a new Vice Chancellor*”, [at a personal level, EfS is] “*about how we deal with each other and how we engage with nature* [, indicating aspirations for students who can] *talk to the politicians that are in charge, engage with that within society, community and take action in that respect*” (HEI lead 9). Hence, while most responded to from an Institutional level, a few responded on a personal level, nevertheless there is a clear aim of engaging with the EfS behaviour change agenda.

However how this aim translates within the Institutional community, can be subject to the interpretation of the individuals engaging with it. As found elsewhere (Leal Filho et al., 2018) and EfS lead 9 states, “*one thing is what the documents say [is the aim of EfS], it is not exactly the same what people think”.* Meaning whilst HEIs infusing EfS in their curriculum whether as an institutional aim or the individual EfS lead level, are geared towards students’ behaviour change, while this may be the overarching aim it can be subject to how individual academics actually embed it in their teaching which is subject to their ‘perceptions and personal approaches to sustainability’ (Leal Filho et al., 2018 p.268).

## **5.4 Perspectives and outcomes**

While the HEIs aims of infusing EfS in the curriculum of these Institutions is students’ behaviour change for sustainability, how they go about it however differs, in fact three perspectives were generated via my analysis – Emancipatory; Instrumental; and the Blending of these two ideals – as Figure 5.1 shows. I now discuss each of these three perspectives in turn.

Figure 5. 1. Higher Education EfS perspectives

The Emancipatory perspective was the least common. As extensively covered in Chapter 2 of this thesis and highlighted in the introductory section of this Chapter, the Emancipatory perspective is about focusing on giving students sustainability knowledge and the critical skills with which they should engage with the agenda and hopefully of their free will they can decide to change their behaviours. HEI lead 5 presents as aligning with the Emancipatory perspective as the quote below indicates - the core of this transformative teaching and learning HEI EfS lead 5 talks about is engendering critical thinking leading to “*transformed habits of the mind*” (Leal Filho et al., 2018), exhibiting a focus on conative rather than actual action - in keeping with Emancipatory perspective:

*“we do not start with ideas about behaviour change – we don’t frame it in that way at all. […] We start from transformative learning principles and that whole spirit is underpinning our sustainability strategy and our change programme – this is the way we approach our Education for Sustainability work*” (HEI EfS lead 5)

More HEI EfS leads favour the Instrumental perspective compared to the Emancipatory perspective. Two other HEI leads, that is EfS leads 1 and 10 identify with the Instrumental perspective, which is focused on students’ taking actual action for sustainability. They indicate promoting/facilitating sustainable behaviours institution wide, and in a case through policies is a means for fostering students action for sustainability, which as Chapter 2.4.1 shows is an Instrumental approach. HEI EfS lead 1considers enabling students action for Sustainability is beyond what students know, rather how they feel about and are enabled to behave sustainably, which can be facilitated by Institutions leading by example and showing them how it can be done; “ *it is about making sure that the things that we do is making it personal for students so that it is not what they know about sustainability, it is how they feel about sustainability and about showing them how it can become part of their everyday way of life*”. HEI EfS lead 10 gave an example of how they are driving EfS through top down policy initiatives; “*One of the key formal things that have been implemented in the past couple of years is a policy that we call healthy university policy. So that is a top-down driver for sustainable community, sustainable environment and sustainable approaches within community engagement that the University adheres to. A key aspect of that has been engaging the curricula with that. So we’ve actually used that as a source for creating projects within the curriculum so students are engaging directly with the policy. […] we are working hard to promote and push various sustainability agenda*”. That does not mean HEIs in this group do not engage students in Emancipatory learning as HEI 10’s quote below shows, they are classed as Instrumental as they give more weight to (Instrumentally fostering) action:

*“just knowing about it is not really going to change anything, so yes I think It really does need to be about action for Sustainability*”

(HEI EfS lead 1)

*“we can talk about it all we want but if we don’t act then change won’t occur. But of cause [action should be] underpinned by a baseline at least of understanding: if a student doesn’t understand why they are looking to make a change then it can’t be so transformative for them. I think it is a tough one and I think they are both important, but I think action for me will help”* (HEI EfS lead 10)

Most however give both knowledge/understanding and action equal weight - blending both Emancipatory and Instrumental perspective. The remaining seven HEI leads (EfS lead, 2, 3,4,6,7,8,9), that is most of the research participants, are blending both the Emancipatory and Instrumental perspectives, giving equal weight to building students capacity and facilitating their action, where they see one as important as the other:

*“You have to do both. Action without understand is just as fashion”* (HEI EfS lead 4)

*“I think they both have go together because people don’t usually change action unless they understand why they should be changing them”* (HEI EfS lead 6)*.*

*“So, they are all part of the picture, I think any programme of learning that doesn’t include all those elements will be incomplete. So, I don’t think it is a question of either or. […] I think it is all-important”* (HEI EfS lead 7)*.*

Measuring behavioural outcomes can be difficult (Michie et al., 2018), as some EfS leads acknowledge, however where a few (2/7) in the Blended group indicated they have means by which they do this, with the instrumental group seeking ways to do so (1/2), the Emancipatory view however gave no indication that this was being done or being considered.

EfS leads in the Blended group indicated they are keeping track of their students’ activities on the campus/community (4/10) by which they are gaining insights into how their students are engaging in sustainability action. Pointing to such institutions being environments where students’ actions for sustainability both with the Institutions and beyond are being encouraged:

*to get a picture of what is happening to students, how far they are engaging with sustainability practice across the full board of sustainability’ [we look]at things like energy consumption and their refuse and recycling [and] the number of students engaged in Sustainability activity in the city” (HEI EfS lead 4)*

Also, an EfS lead in the Instrumental, group indicated the Institution’s interest in finding ways to measure behavioural outcomes, also highlights the typical scenario in HEIs with regards to the sort of EfS measures that tend to be considered, which is the extent to which EfS is infused in curriculums across Institutions:

*“I think it is quite difficult to measure effectiveness and we have set of targets in terms of how many of our courses Sustainability needs to be part of and so there are those sorts of metrics.* *[…]one of the things that were trying to do is to ask the students actually whether they see sustainability as part of their experience and if they have seen it, what does it look like”* (HEI EfS lead 1)

In contrast however, the EfS lead with Emancipatory view (HEI EfS 5) questioned the practicality of having insights into students’ behaviour change, as not much is known or has been done about assessing this outcome currently within the sector:

*“most universities are still struggling on how to make sense of Education for Sustainability and what it means to define and develop this in the curriculum, and engage academics with the agenda, never mind tracking what happens to the students who go through the journey and then go out into the world and then report back on the influence they are having professionally”* (HEI EfS lead 5)

While interviewees were generally unable to state the full outcome of their EfS intervention on students’ behaviour change, most gave indications of the number of their students engaging in sustainability actions. However it is important to acknowledge here that this may be subject to bias that tends to arise from self-reporting. While self-reporting is invaluable in obtaining research participants’ perspectives, views, and opinions, providing breadth and depth of data on the subject matter compared to other means of data collection like observational studies (Althubaiti, 2016), it however tends to be subject to bias, such as arising from individuals subjective measures (e.g. the number an individual may consider as high number of student engagement may be considered as medium or low by another individual) or wanting to ‘look good’ (e.g. for institutional reputation even though the interview data is anonymised) which has implications for the findings (Rosenman et al., 2011). While several research indicates in comparing interviews to other self-administered data collection methods like questioners, self-reporting bias is a less frequent occurrence (Bernstein et al., 2001; Shephard, 2003; Tourangeau and Yan 2007), several other research however also provide evidence that the reverse is the case (Stocke, 2007; Holbrook and Krosnick, 2010), or that there is no difference either way (Pew Research Center, 2015). What is now recognised is that rather than the method utilised, it is the context like the sort of question asked (or others including perception, the individual’s normative beliefs, time pressure etc.) that is most linked to this bias; for example individuals are more likely to underreport on issues of abortion in an interview compared to a questionnaire (Tourangeau and Yan, 2007), while questions on church attendance self-reported by interview or surveys had little to no difference (Pew Research Center, 2015). Hence, a concern for such bias is common amongst researchers, whether quantitative (including questionnaire surveys) or qualitative (including interview). Best practice emanating from the literature on how this bias can be minimised/addressed are data triangulation which can be drawing on different sources of data or within an interview/survey questionnaire asking several questions with which to deduce the answer to the question sort (Dodd-McCue and Tartaglia, 2010). Thus, while seeking directly for this information on the number of student engagement from respondents, I also considered it important to draw on the broad and in-depth information interview conversations provided to place Institutions in appropriate groups. For some EfS leads, prior to or being directly asked about the number of students engaging in action for sustainability, they indicated either it is “*very patchy across board*” (HEI EfS lead 1 and 10), “*large numbers”* (HEI EfS leads 2 and 4), “*not tracked yet”/“don’t have the full picture yet (unknown)*” (HEI EfS leads 3 and 5) or *partially/very few/small* (HEI EfS leads 6,7,9). I then compare these statements with information arising through other aspects of the discussion (e.g. extra curriculum activities and student engagement), and where it is still not clear what group the institution falls into, I directly ask for respondents to quantify their number of students engaging in sustainability action (if not already stated). For example; HEI 4 lead who indicated

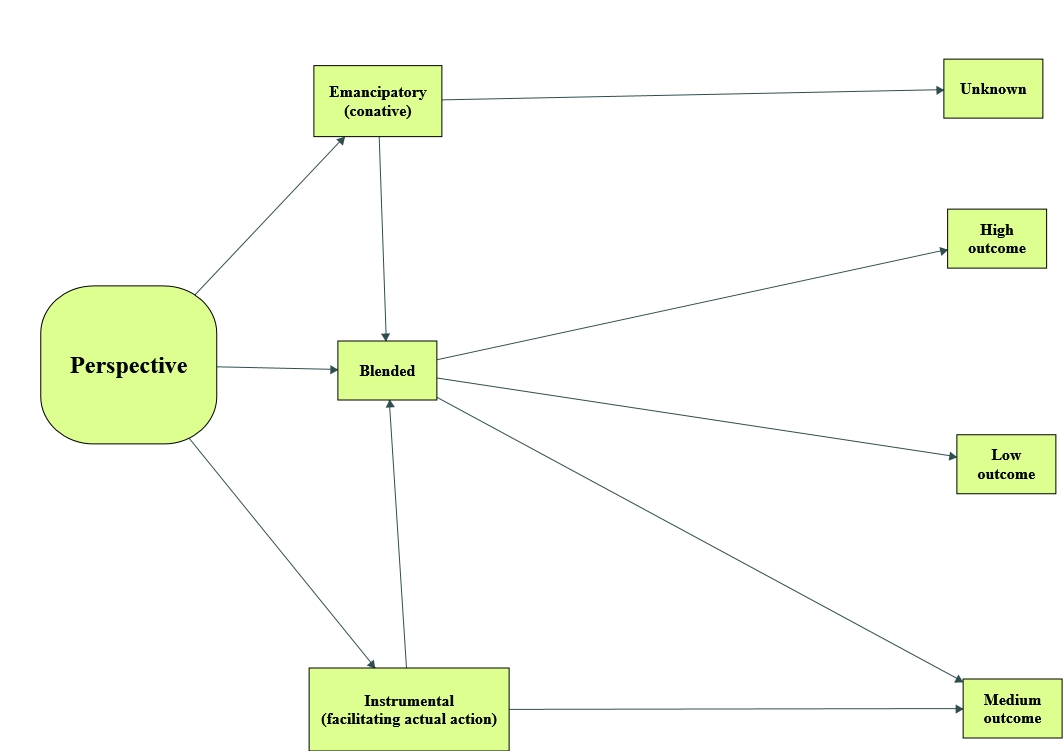


Figure 5. 2. Enabling students action for sustainability: perspectives and outcomes

they have large number of active student engagement emphasised on the extra curriculum activities and community engagement their students take part in great numbers and quantified the number of hours which was above 120000 when last measured; HEI lead 8 who indicated they have very few students engaging in sustainability action, stated they were having “*about six students turnout*” for sustainability activities. A general consistence in what I was (in)directly told and that threaded through the conversations was observed, however self-reporting is a limitation that must be duly acknowledged. With care taken to accurately place participants in the group that best reflect their number of student engagement, solely based on the information they shared during the interviews, HEIs were grouped as having either unknown, low, medium or high number of students engaging in actions for sustainability. As Figure 5.2 shows the :

* the HEI with Emancipatory views indicated they are having unknown numbers of student engagement as it is “a little early to judge […] *“most universities are still struggling on how to make sense of Education for Sustainability and what it means to define and develop this in the curriculum, and engage academics with the agenda, never mind tracking what happens to the students who go through the journey and then go out into the world and then report back on the influence they are having professionally”* (HEI EfS lead 5);
* those in the Instrumental group indicated they are having medium numbers of active student engagement, as “*though hard to quantify, what I would say is not as many as I would like [but] groups of students are taking part in sustainability activities across the institutions*’ (HEI EfS lead 10), though “*it is patchy across board*” (HEI EfS lead 1).
* Those in the blended group gave mixed reports: they reported either experiencing high, medium, low or unknown number of active student engagement.

Hence, the data indicates it is within the group using the blended approach that Institutions report high number of student engagement in sustainability action compared to the Emancipatory or Instrumental groups, though within the blended approach low and medium outcomes are also observed, why this is the case however required further exploration of the data using insights from behavioural sciences in the following section.

## **5.5 Enabling students’ action for sustainability: underlying models**

Based on the interviewee’s accounts of their practice and experiences (challenges and successes) with regards to enabling students’ action for sustainability, the data reveals underlying their perspective (Emancipatory; Instrumental; Blended) are three models which I term as EfS Action (EFSA) models I, II, and III:

* *EfSA model I (Knowledge 🡪 attitude 🡪 action)*: Knowledge will translate to pro-sustainability attitude and then action, or knowledge will lead to supportive attitude and presented with the opportunities to take action will actively engage
* *EfSA model II (Knowledge 🡪 attitude engagement 🡪 action)*: Knowledge, combined with facilitating pro-sustainability attitudes, will lead to learners that can engage in sustainability actions.
* *EfSA model III (Knowledge 🡪 attitude engagement 🡪 action engagement)*: Knowledge, should be combined with not only attitude engagement but also (structured) opportunities to take action.

I now turn to presenting the findings in relation to the three themes associated with these models – knowledge, attitude and action – then discuss the implication in subsection 5.5.1.

### ***5.5.1 Knowledge theme***

The knowledge theme features the same across all the models and has two associated subthemes, receptiveness and relevance. As the literature review in Section 2.3 highlights, how people receive information is a matter of their internal ‘mental structure’ also known as ‘schemas’. Individuals make meaning of the world around and classify them into groups and types which have defining attributes and internal ‘mental structure’ provide a framework for this process (Anderson, 1977; Piaget, 1980). New information that falls within an individual's schema is easily incorporated into their worldview. However, when new information is perceived that does not fit a schema, many things can happen. The most common reaction is to simply ignore or quickly forget the new information (Taylor and Crocker, 1981). This can happen on a deep level— frequently an individual does not become conscious of or even perceive the new information. People may also interpret the new information in a way that minimises how much they must change their schemata (this is termed disconfirmation bias). When the new information cannot be ignored, existing schemata must be changed (assimilation) or new schemata must be created (accommodation) (O’Sullivan and Durso, 1984). According to Piaget (1980), accommodation usually comes about when assimilation has failed. Assimilation is when you use current schema to understand the world around you. Piaget (2001) believes that schema is applied to everyday life and therefore individuals accommodate and assimilate information naturally. Schema structures could be conscious and controlled (Narvaez and Bock, 2002) or unconscious and activated automatically when patterns match that of incoming data (Mandler, 1984). In this research, a few EfS leads indicated they are having issues around getting students to be receptive/uptake information of the Sustainability agenda, while about half of interviewees indicate that they are making progress in this regard. Reflecting on poor receptiveness of students to the sustainability agenda, one Interviewee (EfS lead 7) considered if it may have to do with how students perceive its relevance to them, and if communicating it to them in a way that they see the relevance to themselves may produce more enthusiastic and responsive students:

*“When you have got a student with international background often they are very motivated to engage with SD issues, they are coming at it from a different perspective to maybe a white British student. The latter might be more kind of point of principle about ecological sustainability and for the former it might be mixing kind of sustainable development really with a focus on development - including living standards in their home country or something like that. Maybe it might just be about different ways of making this relevant and engaging to* the different audiences”

Presenting sustainability to students in a personally relevant and meaningful way, is an approach which about half of the research population indicated they are already utilising and find effective. HEI leads (2 and 4) who indicated that they have high levels of active students’ engagement, emphasised the first step to engaging students with the sustainability agenda, is to make them receptive and responsive to sustainability by making it relevant, personal and interesting for them. They stress it is important to demonstrate clearly to students that in engaging with the sustainability agenda, there are advantages to them as individuals, because according to HEI 2 lead, “*you cannot get people interested in sustainability, and they either are or they aren't initially but you can make it relevant to their career […] their academic discipline and people can see it a bit more*”, [though] *some people are naturally interested”.* HEI lead 4 states you can use “*people’s own lives and experience on what they choose to achieve with their lives as a basis*”*.* There is no single main reason why students may be motivated to be receptive of sustainability, to name a few; *“a number of them want to make a difference, they want to make sure that they are actually doing something that they believe in, some are doing it for employability reasons to enhance their CV and others are doing it for a bit of fun” (HEI lead 2).* Consistent with schema theory, HEI leads find that *w*hen sustainability issues are presented to students through channels that are meaningful to them (e.g. linking it to their course/the part that is most important to them or their personal lives), it is easily taken on board.

### ***5.5.2 Attitude and action themes***

Values play a crucial role in pro-attitude formation (Darntorn, 2008) and embedding EfS within the curriculum calls for equipping learners with sustainability knowledge, skills and values (UNESCO, 2005), Sterling (2012 p.34) however states “*Higher education tends to skirt around issues of values, preferring the language of quality assurance and skills to that of ethics and purpose*”. This research shows all the Interviewees are embedding knowledge and skills while half (5/10) of them are engaging learners with the values dimension, either way (whether embedding values or not) they give reasons why this is the case.

Summarised in the first column of Table 5.4 are the reasons pertaining to why HEIs are not engaging with the values dimension of EfS. The main reason being its subjective nature which some consider to be an issue in getting staff to buy in to the EfS agenda:

“*because [values] is a very subjective part of ESD […] I don’t think that it is that useful, I think it’s a lot more useful to start talking about skills and knowledge and then you can go into values. […] I mean it needs to be quite subtle, it needs to be discussed in a more subtle way, rather than going straight into looking for values in the curriculum for instance”* (HEI EfS lead 6)

Another but less common reason is HEIs’ EfS lead’s understanding of EfS, where an EfS lead considers skills most vital, - for example HEI EfS lead 7 states

“*the way that I frame Education for Sustainability in general is hardly around knowledge and partly around kind of like practice- kind of like the skills of engaging with the issue.”*.

Also, but least common is haven *“adopted [and are framing their EfS activities based on] the QAA definition of ESD: skills, knowledge and awareness”* (HEI EfS Lead 8).

As table 5.4 shows, HEIs leads who engage with the values dimension of EfS tend to do so mainly because of the transformation it engenders in learners.

“*often harder for the students to grasps*” the sustainability concept, but, “*when you get the buy in both in terms of the values and the skills, you see real change, you see real blossoming of learning and empowerment of students*”. (HEI lead 10)

One issue raised both by those engaging with the values dimension and those who are not, is pertaining to (as earlier mentioned) measuring the outcomes which can be problematic compared to knowledge or “the skills outcome which are visible and can be easily assessed. Written reflective accounts of students, for HEI lead 10 is an effective way of addressing this:

“*if they engage in that reflective learning well, then often they can evidence, they can recognise that this is required of them. If they don’t engage in that reflective element it is very hard to document or to identify really. So […] it is about having the buy in from the students with regards to the value driven element*”.

Table 5.4. Summary table on the barriers and reason why the research participants embed values in their EfS curriculum

|  |  |
| --- | --- |
| Barriers | Enablers |
| Following the QAA ESD guideline which comprises of knowledge and skills | The transformation it enables in learners |
| Staff leading EfS considering skills and knowledge more important |  |
| Inability to assess students on values outcome- it is problematic |

With regards to engendering students’ pro-sustainability values/attitude formation and action, from the experience of HEIs making progress (EfSA II and III models), it is best done through encouraging the active engagement of student in learning. In HEIs, students can generally be engaged in passive and/or active learning. Passive learning experiences are reading, listening to lectures and learning through demonstrations (hearing and seeing), on field trips or illustrative lectures, which typically is associated with the formal curriculum. On the other hand, active forms of learning which may take place as a form of co/extra curriculum learning, entails involving learners in contrived (deliberately created) experiences such as through speaking and writing (e.g. designing collaborative lessons), and direct, purposeful experiences- the actual live action. Where learners have passive learning experiences they tend to retain between 10% to 50% of what has been learned, while if they have been engaged in active learning, they retain 70% for contrived experiences 90% for direct fist-hand experiences (Dale, 1946, 1954, 1969; Janoska, 2017). Hence, active learning is a more powerful way of learning on two counts, firstly not only does actively learning increase chances of retaining what has been learned compared to passive learning, where passive learning is geared towards conative outcomes, the process of active learning engages students in the actual action. HEIs are encouraged to move beyond the core curriculum (which is typically formal and passive) to utilise co and extracurricular spheres of learning (see Chapter 2.4) to give students active learning experiences.

Majority of the Interviewees are in EfSA model I group comprising of those with Emancipatory (1/1) and Blended perspectives (3/6), while it is observed that the former focuses on the core curriculum, the later also provides extracurricular opportunities, though tending not to engage with the values element of EfS and outcome tends to be low numbers of active student engagement. For those who go beyond the core curriculum, the opportunities they indicated that they are creating for students to engage them in sustainability action, includes small funded local projects for students to come forward and organise. Their experience however is that students generally do not turn up. The experience of HEI 7 and 8 mirrors the concern raised by HEI 9 who has a core curriculum focus because students are “*interested mainly in what they are learning in the classroom or in the curriculum, so you don’t get big numbers when you are doing engagement*”. An interesting observation here is that, HEI lead 6 in the Blended category, cautions that even when you give people the knowledge and also show them or explain to them why some actions may be better than others, it is important that they have the freedom to make their own choices - the aim here is to enable them with the hope that they take action. This indicates that though falling within the Blended approach to EfS group, HEI 6 tilts more towards the Emancipatory worldview and like the others in this group, is working with a linear assumption that knowledge will translate to action.:

*Sometimes we can have the knowledge to take a particular course of action, but we don’t take it. So, I think you are never going to be a hundred percent successful but over time you tend to be more and more successful […]. if you take a dictatorial role it will never work. So, you need to give people the knowledge that helps them change their own lives, so they feel it was their own decision*”.

Those in EfSA II and III groups on the other hand are engaging with values aspect of EfS, while the former is made of HEI leads (2) with Instrumental approaches to EfS and they are doing attitude engagement which is resulting in medium outcome, the latter comprises of HEIs utilising Blended approach, and they are doing both attitude and action engagement and report high numbers of active student engagement.

HEI applying the EfSA II model stress the importance of students experiencing real life sustainability issues, the need for pro-sustainability attitudes and transformation towards pro-sustainability pathway. They are engaging students in learning experience which they state brings students into full consciousness of sustainability issues. For example, HEI lead 10 stressed “*you can tell [students] as much as you want but you have to give them something to do which helps them realise and helps them grasps that; make it real for them so they can make it real for themselves*”. While utilising all forms of curriculum, there are indications that it is through the co-curriculum that this engagement occurs as HEI 10, said

“*it is broadly giving them carrot to inspire them but [then through an] assessment design [...] they are required to engage to be successful - so the carrot and stick*”.

However, while they are making headway in attitude engagement, they however indicate challenges with bridging the gap between attitude and action.

*“It is about showing them how it can become part of their everyday way of life but I don’t think really anybody knows [how this can be done]” (HEI lead 1)*

Those within the EfS III group (2) shared their experience of what works in addressing this gap. The concept of making students responsible for their learning and giving them the opportunities to take action is very much embedded in their strategy, which is focused on giving students the opportunities to get experiences that they won’t get elsewhere with students taking ownership of their active learning. Though slight differences in how they indicate they go about this is observed, however underpinned by a principle of initiating and sustaining students’ actions:

In HEI 2 it is about finding out “*the element of the course they find the most personal for them, and one part of the course is most personal to most students, and it is about that participation, so they demonstrate what that means about sustainability, it is actually a very effective way of doing it*”. HEI 2 lead stresses another crucial success factor is making the experience fun and importantly working collaboratively with students, which also requires building trust. From HEI lead 2 experiences, to build trust that enables students’ partnership is very much reliant on you treating them as partners/equals. And once that relationship is established it facilitates and sustains the continuing active engagement of both current and future students: as the lead puts it “*once you’ve got that track record going that trusts passes down the ages, passes down the years and people know that you are serious about it. There is No magic bullet, it is just a lot of hard work treating the students like people, treat them as individuals [..]. Basically, you need to make it something which is fun to be part of*”.

HEI 4 has a structured four step process to enable students initiate and sustain their actions for sustainability, particularly by means of personal and local experiences and actions.

*[What] “we have deliberately done is to develop a four-step approach: that step 1 is knowledge – I am not sure but there is something that needs to be done. Step 2 is doing it practically in your own life…. and step no 3 is getting involved in helping your community do different. And step no 4 is actually leading change. So, the work is very much focused. The first stage was getting stuff into the curriculum, the second stage has been this entire process of engaged learning and developing engaged learning opportunities in the curriculum and outside the curriculum”.* (HEI 4)

EfS lead 4 indicated this model/strategy has largely been successful for reorienting and engendering students’ action for sustainability.

“*what we have been doing has moved people from being partial sustainability, because they may have been doing a little bit of recycling and whatever to integrated holistic Sustainability [our data suggests] that we are making real progress of getting our students moving towards being holistically interested in Sustainability*”.

## **5.6 Discussion**

HEIs have moved beyond the traditional approach to Education to mostly adopt the Blended approach to enable student students’ action for sustainability, but most however are using inadequate behaviour change models which is leading to poor or average outcomes, with only a handful using an effective model. All ten EfS leads interviewed indicate they are engaging with the EfS behaviour change agenda, and apart from one (with the Emancipatory view), all others (Instrumental and Blended perspectives) indicated they are facilitating students’ action. However, most of them are either experiencing medium to low outcomes with only a handful experiencing high outcomes, and I had to look beyond the perspectives layer using behavioural insight to understand the reason for this. Behaviour change theories and models are numerous, even behavioural scientists complain about how difficult it is to choose the most appropriate one (Martinez et al., 2014), here I have analysed the findings using the simple Knowledge -Attitude-Behaviour/action (KAB) model (earlier discussed in Chapter 2) as it aligns with the reports of students having high awareness/knowledge and pro sustainability attituded not translating to action, enabling us to assess this process in relation to EfS practice. While the HEI with the Emancipatory (conation focused) perspective reported unknown number of active student engagement, the (EfSA I) model underlying it is similar to that of some HEIs using Blended approach who are experiencing low outcomes. The model (EfSA I) is based on an assumption that knowledge will translate to pro sustainability attitude and them action. The low outcome they are experiencing is unsurprising as a vast array of empirical research continue to prove behaviour change programmes that rely solely on knowledge/understanding - whether leading to supportive attitude, willingness or intention (conation) to act - without facilitating/ providing the opportunity to take the actual action (in consideration for internal and external environmental conditions and constrains that can hinder action) tend to fail ( McKenzie-Mohr and Smith, 1999;Kernaghan and da Silva, 2014; Heeren et al., 2016; Kelly and Barker, 2016). HEIs who enable students’ knowledge/understanding of sustainability, embed values education and do attitude engagement with the initiation of sustainability action, report they are making advances (medium to high numbers), those who however indicated they are making significant advances indicate they are sustaining student active engagement. This is no surprise as it is in line with findings from behavioural sciences, which prove attitude is a crucial factor in the process to behaviour change hence values that led to its formation needs to be considered but further to this, even when the individual is willing to take positive action, due to other factors that largely intermediate the process for attitude to translate to actual action (perceived behavioural control, automatic response, affective response, possibility of relapse to old habits), it is important to help initiate and sustain the action to enable the formulation of the new behaviour, as earlier discussed in Chapter 2. The research as summarised in Figure 5.3, hence indicates that whilst it is the blended approach to EfS that leads to high numbers of active student engagement, it has relatively less influence if the gaps between knowledge and action are not taken into consideration.

Vare and Scott (2007) argue that this blending of Emancipatory and Instrumental perspectives are needed in EfS, an idea which behavioural sciences supports, but, they both however have different reasons for this assertion. For Vare and Scott (2007), there is good sense in engaging students in actions that are for societal good even if Instrumental while also developing their critical thinking abilities which are vital for helping to find innovative means of addressing current sustainability challenges and those to come. From the behavioural sciences view, as the review in Chapter 2 shows, and the findings in this Chapter here confirms, adopting these two perspectives are needed as behavioural change models show that even when individual have the knowledge/attitude/intention and capacity (Emancipatory) to take action it largely does not

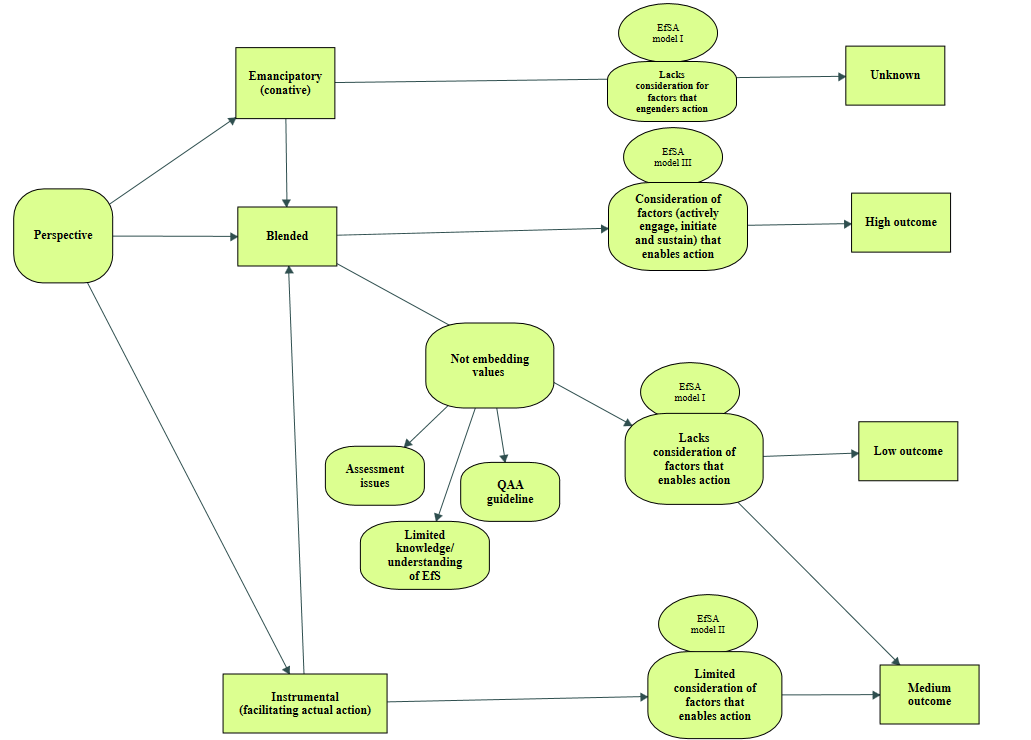


Figure 5. 3. Enabling students’ action for sustainability: perspectives, models and outcomes

result in actual action, it is when it is initiated and sustained that enables the formation of the desired behaviour.

That this research finds even with HEIs willingness to enable their students’ action for sustainability, it was by using insights from behavioural sciences to assess their approach, that understanding could be gained about the reasons for the outcomes (number of active students engagement) that they are experiencing - which largely could not be explained by their perspectives, this is significant because the use of behavioural insights to analyse EfS practice is missing from the literatures. It follows that if one wants to really understand EfS practice a focus on perspectives (Emancipatory, Instrumental, Blended) will not provide the full picture, rather one has to also consider models of behaviour change.

It is unsurprising that this is the case as in the context of behaviour change, it is to the theories/models that one looks to gain insights into why, when and how a behaviour does or does not occur (UCL, 2019). In health sciences, Davis et al (2014) also found that focusing on approaches to Interventions rather than the models/theories of behaviour change tend to result in modest effects, recommending the need to raise this awareness among behaviour change programme designers.

**5.7 Conclusions**

This Chapter set out to determine UK Higher Education core aim for infusing EfS in their curriculum, to establish whether they are enabling, or intend to enable, learners on their pathway towards sustainable behaviours, and if so how are they doing it. Following the interviewing of 10 UK HEI EfS leads, I found that HEIs are working towards enabling students’ behaviour change for sustainability, and that having a high number of students engaging in sustainability action is shaped by combining both Emancipatory and Instrumental approaches, as well as consideration for some other key factors. This research found alongside using blended approach, considering the gaps between knowledge and action, embedding values education for attitude formation and facilitating action engagement (initiating and sustaining it) in curriculum designs, are the other key components that effectively enables students’ action for sustainability. This research provides empirical evidence that most of these HEIs are working to make the production of students that can contribute to steering the world towards a Sustainable path a reality, and rather than boycotting values education (Sterling, 2012; Sipos et al, 2008) a good number of them are actually incorporating it in their students learning - pushing past traditional educational boundaries (moving beyond the core curriculum and Blending Instrumental and Emancipatory approaches), in a bid to effectively enable students on their EfS journey.

This research reveals the perspectives underlying HEI EfS curriculum and extends our knowledge on what contributes to effective EfS that enables students’ action for sustainability. The empirical findings in this research confirms the well-established fact in behavioural sciences that having knowledge and even supportive attitudes do not generally translate to action, thereby highlighting the need for EfS leads to consider this in their EfS programme design as most though adopting a blended approach tended to have this (KAB) linear model underlying their approach resulting in poor outcomes. Though this research has only considered how students respond to the emancipatory and instrumental perspectives, in the process revealing factors that enable students engagement in actions for sustainability, it has not examined how successfully this is in normalising the new behaviour, though evidence from behavioural sciences indicate this leads to successful outcome, further study could assess the effect and expand on this crucial but relatively uncharted areas.

This research did draw attention to the complexity that underlies the implementation of effective behaviour change programmes in HEIs. It indicates though there is the will to enable students’ action for sustainability, as most of the HEIs are pushing past a dominant emancipatory perspective to blend with instrumental approaches, many EfS leads however lack or have limited understanding of models that enable students active engagement, and this can influence how they relate with the EfS agenda and has direct implication for what sort of EfS is being embedded and being scaled up across Institutions. These issues highlight the need for adequate training on what constitutes effective behaviour change programmes. There is, therefore, a definite need for:

* Attention also to be given to the models underlying EfS curriculum rather that a continuing focus on curriculum change, as the findings here indicates a much more robust approach is needed.
* EfS leads to become knowledgeable of the behaviour change process, particularly drawing on insights from behavioural sciences, as it does not only have implication for their practice but also how it is being scaled up within their Institutions.

This however raises the question of what sort of support do EfS leads and staff have within their Institutions for EfS research and trainings. The findings of the Strategic Documents audit done in Chapter 4 showed only a handful of HEIs stating they are providing training opportunities for staff, though what sort of training (are behavioural models considered) is another question, the fact that only a very few had EfS KPIs in their Strategic plans, begs the question of what the Institutional context is, within which EfS leads are working to enable students action for sustainability. Attempts to explore this matter further are made in the following Chapter 6.

# **Chapter 6 Taking action for sustainability**

## **6.1 Introduction**

My analysis of the Strategic Documents of UK HEIs (Chapter 4) shows that only a few UK HEIs hold EfS as a strategic priority and even then, only a handful of them have set KPIs and are actively monitoring their progress. Preceding Chapter investigated how a few of these HEIs are approaching EfS curriculum design and this chapter is examining the contextual landscape in which these HEIs are working, and specifically where and why individual actions, by students or by members of staff with a responsibility for EfS are taking place.

There are a few existing frameworks that provide indicators with which the institutional context within which EfS is being implemented can be assessed, there is however a lack of understanding of how these indicators relate to students’ engagement in sustainability action. Thomashow’s (2012) campus as learning lab and Littledyke et al’s (2013) systems approach which have been discussed in Chapters 2 and 3, show, curriculum, infrastructure and governance are the three factors at play, though these two frameworks highlight Institutional culture as also a crucial factor in EfS implementation. They both acknowledge that all forms of curriculum are important to EfS learning. They note too, the role that a visible sustainable infrastructure (e.g. the way buildings are designed to conserve energy) can play in contributing to students learning and in raising awareness of institutional commitment to sustainability amongst staff and students. Thomashaw also argues that (2012 p.18) *“a deeply integrated, values-based approach to sustainability, [that is a sustainable culture] must thoroughly penetrate all aspects of campus life* [governance, infrastructure and curriculum] *to enable EfS”*. Littledyke et al’s (2013 p.375) systems framework which was developed based on empirical evidence from 19 institutions, portrays culture as a direct product of governance -where governance effect on *“structures, processes and decision-making has impact on university culture as embodied in attitudes, values and practice of its members”*. Either way they highlight institutional culture is important: Thomashaw, (2012) portrays culture as a driver for institutional transformation towards sustainability, whilst Littledyke et al (2013) argues it is the outcome of the processes. What however is missing is understanding the interrelations between these factors operating in the institutional context in terms of EfS outcomes, that is students’ engagement in sustainability action. This Chapter aims to address this gap as it focuses on the institutional context within which EfS is being implemented. It does so specifically by examining where and why individual actions, of those leading the implementation of EfS are taking place.

The guiding questions which were used in the interviews as context for this research are presented in the methods section 6.2, the results and discussion are then presented in sections 6.3 to 6.5, with concluding remarks in section 6.6.

**6.2 Rich data**

This Chapter relates to data collected using the methods and processes explained in section 5.2. As section 5.2 shows, of the 148 UK HEI population, 41 were identified as EfS institutions, however 17 of them are confirmed as actively working on infusing EfS in their curriculum, of which 10 of their EfS leads through interviews have contributed to addressing the research objectives in this Chapter and preceding Chapter 5. As detailed in section 6.2, this entailed the deployment of a set of pre-interview questions followed up with a structured interview lasting on average 45 mins, with content and thematic analysis utilised as a means to gain insight from the data generated. Detail of considerations pertinent to this chapter are presented here.

It is important to state here that though the research population is the same with Chapter 5, the questions explored here are different. Broadly, there are two areas of debates arising from using data from same participant groups, on the one hand is reanalysing the same dataset/questions while on the other hand is having a split dataset/questions where each side focuses on a different aspect of the inquiry (Kirkman et al 2011). The former raises several ethical concerns and there are arguments for and against such a practice even amongst editorials committees. The most crucial of which is that authors may well write a paper and then afterwards seek ways of maximising it by simply considering opportunities to publish other papers from it, without having considered such an outcome in the initial research design, hence danger of haven not collected appropriate data. Though most do agree the same dataset can be reanalysed with a new method/theory which gives new insights (Kirkman et al 2011). In the case of having same research population but split questions where one or more papers address the questions separately, the authors and editorials tend to agree. The consensus is that such an approach is valid as long as the question being addressed are different, being that, it is widely acknowledged that investigating complex issues can be too cumbersome to address in one paper (International Committee of Medical Journal Editors, 2019). Whether reusing same data in a bid to maximise its usage, or in reporting split parts of a data set, commonly agreed across board is that researchers should be transparent. It is the latter group which this research falls into. Apart from the fact that it is approved practice to have separate paper(s) with the same participant base with different set of questions, it also stands to reason that it is the same research population I focus on here, as this Chapter seeks to place the findings in Chapter 5 within the participants wider institutional context, in essence, extending the investigation beyond the outcome the interview data reveal in terms of students engagement in action for Substantiality based on the approach to the curriculum design, to consider contextual factors in relation to this matter.

Addressing the particular aims of this Chapter, was reliant on collecting rich data in other to gain insight into the structures and mechanism at play within these institutions. Defining ‘rich’ data, though, is challenging as while it is commonly referred to in most qualitative texts (Ashworth, 2003; Breakwell, 2006; Charmaz, 2003; Coyle, 2007; DiCicco-Bloom and Crabtree, 2006; Harris and Huntington, 2001; King, 1996; Rapley, 2001; Smith, 1995, 2003; Stangor, 2004) very few definitions exist of the concept. One of which is provided by Given (2008 np.) who states, “r*ich data describes the notion that qualitative data and their subsequent representation in text should reveal the complexities and the richness of what is being studied*”. It is Charmaz’s (2003) definition which opens up the nature of the ideal, by stating “*rich data reveal participants’ thoughts, feelings, intentions, and actions as well as context and structure … [they] afford views of human experience that etiquette, social conventions, and inaccessibility hide or minimise in ordinary discourse”*. That is to say, one can gain insights into structures and mechanisms by interviewing individuals whereby data is generated that implicitly reveals their contextual factors. For example, one may through individuals’ interviewees generate data that implicitly recognises the constraints that individual faces within the context that are operating (i.e. the range of what is possible for individuals to practically do, because the structures provide the range of ‘options’ for the individuals to ‘choose’ from, consciously or not, when taking action). While interviewing is considered the most appropriate means by which to collect rich data, as in engaging participants directly in a conversation one is able to generate deeply contextual, nuanced and authentic accounts of participants' outer and inner worlds, that is, their experiences and how they interpret them, interviewing however does not automatically guarantee the production of rich data and meaningful insight. Interviews that generate rich data have to be carefully constructed, and numerous guidelines exist on how to do this. Guidelines though are criticised as tending to be based on consensus or ‘common sense’ without proper empirical grounding (Collins et al., 2005), with most favouring empirically based recommendations (Dijkstra et al. 1985; Collins et al., 2005; Ogden and Cornwell, 2010). With regards to interviews leading to interviewees disclosing rich personal information, socioemotional interviews rather than formal task-oriented interview are found to most effective (Dijkstra et al. 1985). With regards to interviews seeking insights into the context within which interviewees operate, empirical evidence indicate that open questions, located later on (e.g. future plans) and framed in the present or past tense, tend to be most predictive of richness - more broadly the following features are identified as enabling the generation of rich data (Ogden and Cornwell, 2010):

* The interviewee being knowledgeable in the area under study
* Using personal or less specific questions
* By asking open questions
* The use of double questions
* Asking past, later and future questions
* Using questions relating to insight and causation

Therefore, to gain insights into the institutional context within which EfS leads, operationalising EfS in order to enable students’ action for sustainability, the following set of open questions were used to guide this part of the interviews (see Appendix 1 for full interviewee protocol):

1. What in your opinion are the current barriers (at institutional and individual level) and how can they be overcome?
2. Levers for success?
3. Way forward; where do you want to get to in terms of EfS and how?
4. What are your personal goals for EfS in the next three years?
5. How will you achieve them?

The findings which emerged from the data can be categorised broadly as strategic and operational level issues, which I now discuss in turn.

## **6.3 Strategic level**

Strategic commitment for a programme like EfS or any change programme is considered crucial to enable its operationalisation. Without true management commitment to an agenda, this could lead to delays, little to no motivation to implement it or even to make a success of it invariably leading to implementation efforts being sabotaged. Organisational research strongly indicates that when management is genuinely commitment to driving an agenda, one does not only find that it serves as an example for staff but also, they will go all out to achieve it, however, where commitment is lacking it signals the agenda is insignificant which in turn results in lack of staff commitment, hence the agenda does not take effect (Brown, 2013; Van der Maas, 2016).

Most of the Institutions of the HEIs leads who participated in this research have strategic commitment for EfS in their Strategic Documents (see Chapter4), and while EfS did not feature in that of the remaining few HEIs, the data indicates EfS is part of a wider corporate interest in sustainability. As Table 6.1 shows, of the 10 HEIs whose EfS leads took part in this research, seven of them are identified as part of the 27 HEIs who have EfS in their Strategic Documents (see Chapter 4), that is they make up twenty six percent (7 of 27) of UK HEIs with strategic commitment to embedding EfS in their curriculums. All but one of them have staff with designated EfS responsibilities. On the other hand, the other three Interviewees strategic documents did not indicate they have a strategic mandate for EfS, but they however indicate they are actioning EfS within their institutions. A common feature between these HEIs without strategic commitment to EfS, is that their leads all sit with colleagues - including their institutions vice chancellors - on their institution’s sustainability strategy groups, which has EfS as one of the areas being addressed.

Table 6.1. Strategic commitment for EfS in Institutions Strategic Document?

|  |  |  |
| --- | --- | --- |
| **HEI** | **EfS in Strategic Document** | |
| Yes | No |
| HEI 1 |  |  |
| HEI 2 |  |  |
| HEI 3 |  |  |
| HEI 4 |  |  |
| HEI 5 |  |  |
| HEI 6 |  |  |
| HEI 7 |  |  |
| HEI 8 |  |  |
| HEI 9 |  |  |
| HEI 10 |  |  |

Exploring the relationship between HEIs having a strategic priority and the outcome they are experiencing in terms of the number of students engagement, the data indicates whether EfS is stated as a strategic priority or not, it has no bearing on HEIs EfS implementation outcome in terms of the number of students engaging in sustainability action. Figure 6.1 shows mixed outcomes where institutions split into high, medium and low numbers of student engagement were observed across both the group with EfS in their Strategic Documents and those without, as the Figure shows, there is no evidence that the group with strategy commitment did better than the group without strategic commitment to EfS. Exploring the data further, it was observed as Figure 6.2 illustrates, that where EfS enjoys a high level of resources and leadership, a high number of active students engagement is reported, as well as where there are medium and low levels of resources/leadership they are experiencing medium and low number of active student engagement respectively. However, as Figure 6.2 also shows, though EfS may enjoy a high level of real strategic support, it may not result in high numbers of active student engagement when combined with an ineffective EfS model (see Chapter 5). In essence, what the data does indicate is significantly linked to EfS outcome are the approach to EfS curriculum design and the resource given for EfS implementation, which is reliant on the level of real strategic support rather than vague strategic promises; hence I will be analysing the findings further comparing the contextual landscape in which these HEIs are working and their students engagement outcome by their level of strategic support (resources and leadership).

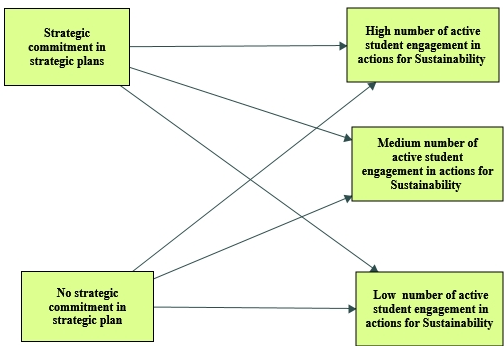


Figure 6.1. How EfS feature in Strategic Documents in relation to the outcomes – students engaging in sustainability action

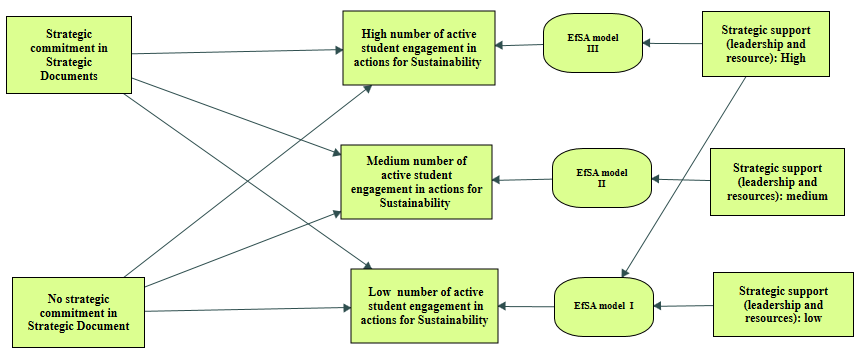


Figure 6.2. How EfS feature in strategic Plans and the level of leadership shown in its actual implementation in relation to the outcomes – students engaging in sustainability action

Resources is important to enable on-going coordination and large-scale implementation to occur (Kernaghan and Silva, 2014). Resource in terms of time and staffing, is identified here as a crucial factor for operationalising EfS, but generally an issue, though to varying degrees as it is found to depend on the level of actual strategic support across the three groups of HEIs. As Table 5.3 shows, majority of EfS leads are working some hours or part time, or have full time EfS roles, while a few are working voluntarily. Only one explicitly stated their Institutions EfS programme is adequately funded, while most stressed they lack adequate staffing, time and resources to effectively push forward the EfS agenda. This though varies within the three groups of HEIs, with the effect of resource progressively seen as one goes from those with high number of student engagement to those with the low numbers of student engagement who barely have anytime allocated for EfS work:

The two HEIs with high numbers of active student engagement, includes the only EfS lead who indicated that EfS within the Institution is well funded, while the other EfS lead indicates resource for EfS is inconsistent. For the former, EfS “*does have funding and it does have profile”* (HEI EfS 2) as top management is very much on board on delivering their stated commitment to EfS. While for the latter though EfS is resourced, this is inconsistent as sometimes, EfSis *“being managed voluntarily from time to time once funds run out and […] it is not part of any formal appraisal process, there is no time which is dedicated to it, I just make time happen [*and when there was additional staff assigned to support EfS, we] *were able to do more (HEI EfS lead 2).*

Those with medium numbers of active student engagement comprise mainly of fulltime staff and one part time staff, they are mostly wanting to be resourced so as to have an adequate team for driving EfS;

* HEI 10 emphasis that even when other staff assigned on other roles within the unit/department that EfS sits are willing to assist*,* there are“s*o many competing demands on our time and on things we need to consider […] [and] you can’t be at all places at all times” (HEI 10*).
* HEI 6 stresses the need for strategic support, as *“without a large team leading this agenda, there is never enough time and you are continually plugging holes, things change, new people come into roles and you are having to reinforce the message again and again, so that is quite a big barrier.*

While all of the EfS leads who are experiencing low numbers of student engagement are employed with formal remits for implementing EfS, the finding does indicate, that they all are not adequately resourced to effectively address EfS responsibilities. The data shows the implementation of EfS within this group tends to be constrained by time and resources, of which this could be;

* staff *“just doing about a day a week for the whole university, [which is] very difficult […] to do really hands-on work with all the faculties*” (HEI lead 9),
* or “*half a day a week which is not enough to spend on [making] specific experiences [for students] within the classroom all linked to the classroom or just within the wider context of the University (HEI lead 7),*
* Lacking *“time to build those relationships with academic departments”* (HEI lead 8).

Figure 6.3 shows the level of support (leadership and resource) is commensurate to the number of students’ engagement in sustainability action, hence most of the HEIs are generally not well prepared. Those at the fore front (EfS leads) of the agenda appear to lack the resources they need to make a success of it; a few working voluntarily with no lines of accountability and even those with formal paid hours lack the time and staffing that they need. This poses a major challenge for implementing EfS programmes, as the curriculum reform EfS calls for requires resources to advance research and capacity building of EfS staff on how to deliver this entirely new model of education, and also to enable outreach/support provision to the wider Institution community (McKeown, 2002).

Table 6.2. Factors that impact on adequate strategic support for the Implementation of EfS within research participants Institutions

|  |  |  |
| --- | --- | --- |
|  | Internal | External |
|  | Transition:  Changing leadership and staff turnovers | Government:  Poor leadership- its agencies provide little to no prompts for Institutions to engage with EfS at present |
|  | Relative importance of the sustainability agenda: Other issues that are deemed more important, particularly in relation to student recruitments and retention which have financial implications are given precedence over EfS | Businesses:  No real push coming from industry to strongly indicate to HEIs a desire for graduates with sustainability embedded in their curriculums |
|  | Financial sustainability:  Financial concerns lead to focus on agendas/activities that successfully generates income into the Institution | Broader sector wide initiatives:  Sector initiatives like TEF (Teaching excellence framework), which are resource intense, as yet do not have EfS mainstreamed in them |

EfS leads raise a number of internal and external factors as summarised in Table 6.2, which affect strategic support and impact on their work.

Transition is in relation to changing leadership and staff turnover which may bring with it challenges or opportunities. Strategic support may change when a new vice chancellor comes in with a new direction of travel different from his or her predecessor, that is, “*the vision where it wants to be, where it wants to go, and how it wants to get there*” (HEI1). If EfS is largely about personalities rather than strategically embedded this is always going to be a risk. Periods of transition could also mean that the EfS agenda becomes unclear, new strategic documents could see EfS being *“something that will be [done in] a slightly different way*” (HEI 1) or EfS receiving none or way less support. Staff turnover, in particular academics who are receptive and engaging in the EfS agenda leaving the institution during “*organisational development renewable change is* [another] *barrier”* (HEI 10)*,* as it takes time and resources to build new relations. However, also identified is the view “*that it is possible to find opportunities in both*” (HEI 9), that is, when there is no transition and when such shift is taking place, as HEI 9 puts it:

*“There are as many opportunities and barriers when things are moving and shifting as when they are not moving. actually, sometimes when things are not moving there are less opportunities to integrate education for sustainable development. Sometimes when everything is really static then it is quite difficult to get around things, but when there is a shift - it [can be] […] a bit disruptive to a certain extent for some people just a different way of doing things, but then it also opens up the conversation for many other things. I feel that it’s actually easier when there are shifts, than when there are aren’t but at the same time I think it is possible to find opportunities in both” (HEI lead 9).*

The relative importance of the sustainability agenda as perceived in the Institutions is another crucial issue. Despite the imperative of embedding sustainability in the curriculum HEIs are focused elsewhere, as EfS leads indicate other agendas and broader sector wide initiatives tend to be given more importance than EfS if they are considered crucial to Institutions financial sustainability. “*There is a lot of focus on things that affect the[ir] financial success*” (HEI 7), this includes “*satisfaction in terms of the national student survey*” (HEI 7), in relation to the employability of students “*universities are driven by DLH data which is destination of levers of higher education data, to prove that graduates are going into good jobs*” (HEI 2), “*other agendas such as enterprise and entrepreneurship or more broader section wide initiatives like the TEF*” (Teaching excellence framework) (HEI 10). The *“difficulty to really articulate with Education for Sustainability spending within the curriculum”* (HEI 2)makes itmostly fall behind where other agendas are seen as financially more viable. If activities around EfS successfully generates income into the university compared to other priorities, then institutions will “*market and promote externally [its] successes.* On the other hand, if it is not generating money and does not translate to students’ recruitment/employability, *“there appears to be no incentive to support an initiative which takes money operationally or takes money in terms of how you deliver programmes”. Hence it becomes less of an institutional imperative to work on* (HEI 2).

*“so as much as we might like to think that institutions are operating for the good of society we are fundamentally businesses and we have to deliver on that basis, and until you can actually demonstrate the savings and that there is actually an advantage, then it can be very difficult to get sustainability working within institution*” (HEI 2).

HEI 10 however expresses that although financial issues can be high on an institutions agenda, for them EfS is also personally a primary priority.

“*as a company essentially, it has to focus on getting as many students through the door in other to sustain the required funding levels, there are various competing priorities there, but no we certainly have bought into it and a big driver of that are two things. One we quite a small institution and relative to some universities, so there is a real sense of community and belonging in this university, like and organisation that goes through ups and downs but broadly speaking it is there. And I think that is important, there is a real sense of care for our students. We love to look after them, they are important. The other key thing is that sustainability has been very high on the agenda in wales for the past 5 to 10 years, and that has really of course pushed things. Although we are not required legally to adhere to the bill, nevertheless we aim to. We view it as a base line for our institution practice. […] we buy into it a great deal*”

Identified across Institutions is the critical role of government and businesses in bringing EfS to the fore of institutional imperatives. Institutions respond to government prods “*like the QAA and HEA prompts to develop ESD within the curriculum”* (HEI 10). However, there is a general sense there is poor leadership coming from government. There is also “*no real push coming from industry, other than within environmental consultancies and similar*” (HEI 2). Government and business are big drivers as without their “*external pushes and pressures then you are not really going to get institution focusing on this area because they don't believe or there is no evidence to show that this is a particular area of incredibly importance”* (HEI 2). If jobs are seen as being very much associated with sustainability, and if it is *a “very normal part of all the routine ways in which we make sure of high-quality teaching and good students’ outcomes”* (HEI 3), then “*universities would engage with it a lot more, and so therefore it would happen at a much higher level. But until there are really external drivers, then it is less likely to happen in itself” (*HEI lead 2*).*

The impact of these barriers on EfS efforts within HEIs should not be underestimated, with leads generally not optimistic things will change at least in the medium term. HEI EfS leads were asked their goals for the next three years and how they will achieve them. HEI EfS lead 4 who has high level of strategic support did not give any indication that this will change, and reported that they will be focusing on maintaining and improving the delivery of EfS within the curriculum “*The current focus is really on maintaining the levels of activities that I have been describing, [and keep embedding EfS] right across the university , [launch other learning pathways and create] more opportunities for students in order to understand what sustainability looks like from the different disciplines - to do that exploringly”*. While a number of leads (3/9) indicated their short term focus is either to put or keep EfS on the institutional agenda so it is given or does not lose its importance (HEI EFS lead 1, 3. 6). For example HEI EfS lead 3 who wants to get “*EfS into all of the ways in which [they] recruit students, develop programs, evaluate programs, reward staff, promote staff, reward students, giving out prizes, tying all of those things together so that we are constantly saying thank you well done, brilliant let us do it even more”*. To do this we need to get the buy in of “*the new Vice Chancellor so that she is interested and sees the potential in some of the ideas that we will suggest to her that we might want to pursue with her blessing*” (HEI 3). While HEI EfS lead 1 wants to maintain the support EfS currently receives, to do this the lead placed emphasis on the impact the external HEI environment is having on the relative importance given to EfS within institutions, which may have implications for its long term sustainability “b*ecause the University will always be looking externally to see what agendas are important nationally […]. It also has to balance its books by making sure it is a viable Institution.[…]. I think we carry on trying to influence the University so that it is an agenda which remains important to the University and in order to do that we have to convince the University that there are tangible benefits (HEI 1).*

The majority of the participants (5/9) who responded to this question stress resources are a barrier to aspirations/plans to:

* garner more support for EfS within Institutional community. As need policies to drive this and the resources for more time/staff which is crucial (HEI 10)
* embed EfS across the curriculum. Bigger team required (HEI 9)
* create more opportunities for students to have “*transformative volunteering experience locally and going on international learning trips that change their way of thinking about the world, their future careers; we link it to every single course we do*”. More staff [need] to be employed. Genuine leadership commitment is needed such that “*the senior management team link these [EfS] goals to the strategic focus of the University, as a result maybe we have several staff employed to it*” (HEI 7)
* drive up the research aspect and even plan as a result of the uncertain climate. This is due to resource which is impacted by external pressures (Government, other agendas like TEF) (HEI 2)
* ensure students graduate work ready agents for sustainability. “*I will love to just be able to focus on EFS, make it my sole role; that might go against what my boss actually wants, but I mean to carve out a role to really coordinate EfS across the institution. To have more staff engaged and aware, and have some form of team network to share ideas, would be a very crucial thing for me*”. We need to adopt a “*Campus as a living lab type of approach [as well as] build links into local businesses, organisations and community groups*” (HEI 8).

The implication being, for any meaningful advancement on EfS, the internal barriers and the external factors which influence them need to be taken into consideration, for EfS to make advances within HEI.

## **6.4 Operational level**

The data as Figure 6.3 illustrates, indicates the level of strategic support HEI EfS leads are receiving is commensurate to the level of collaboration and partnership for EfS within their institutions.

As Figure 6.3 shows, all the Institutions with low numbers of student engagement, have low level of strategic support where EfS is non-mandatory in the curriculum, and is being driven through communication and networking, and they indicate they are faced with challenges of staff receptivity. HEI EfS lead 7 though stated that they recently got EfS included in their new teaching and learning strategy, although this is yet to operationalised. At present, HEI 7 is developing a communication angle around its Infrastructure, aiming to increase visibility of their sustainability practice as a means to increase understanding and receptivity of the EfS agenda. To do this HEI 7 will *“make it really clear about what is happening or have the signage up about how buildings are heated or powered, sort of talking about biodiversity in connection with what has been done”.* They are also communicating the relevance of EfS to non-academic staff in the extracurricular space, to get Estates involved (Infrastructure) or where they “*are trying to get students employability skills and students to learn with real life situation*, [as this requires partnership between academics], *organisations and departments across the university [for students] to get that experience*” (HEI 8). Another way they find effective for communicating about it is “*anchoring it on the UN Sustainable Development Goals*” (HEI 7), as they consider it is “*a great kind of accessable way for people that aren’t overly familiar with it to kind of get a grasp of” it* (HEI 8). They are however having challenges with staff receptiveness of the EfS agenda. HEI EfS leads have observed that using the word ‘sustainability’ in conversations to get staff buy in tends to be a barrier, as staff usually don’t see it as relevant to them. By linking it to their key concerns -HEI leads are having conversations with academics*,* for example *“to have them realise what EfS is and how it relates to their discipline*” (HEI 8) or to concerns like student employability. EfS not being mandatory

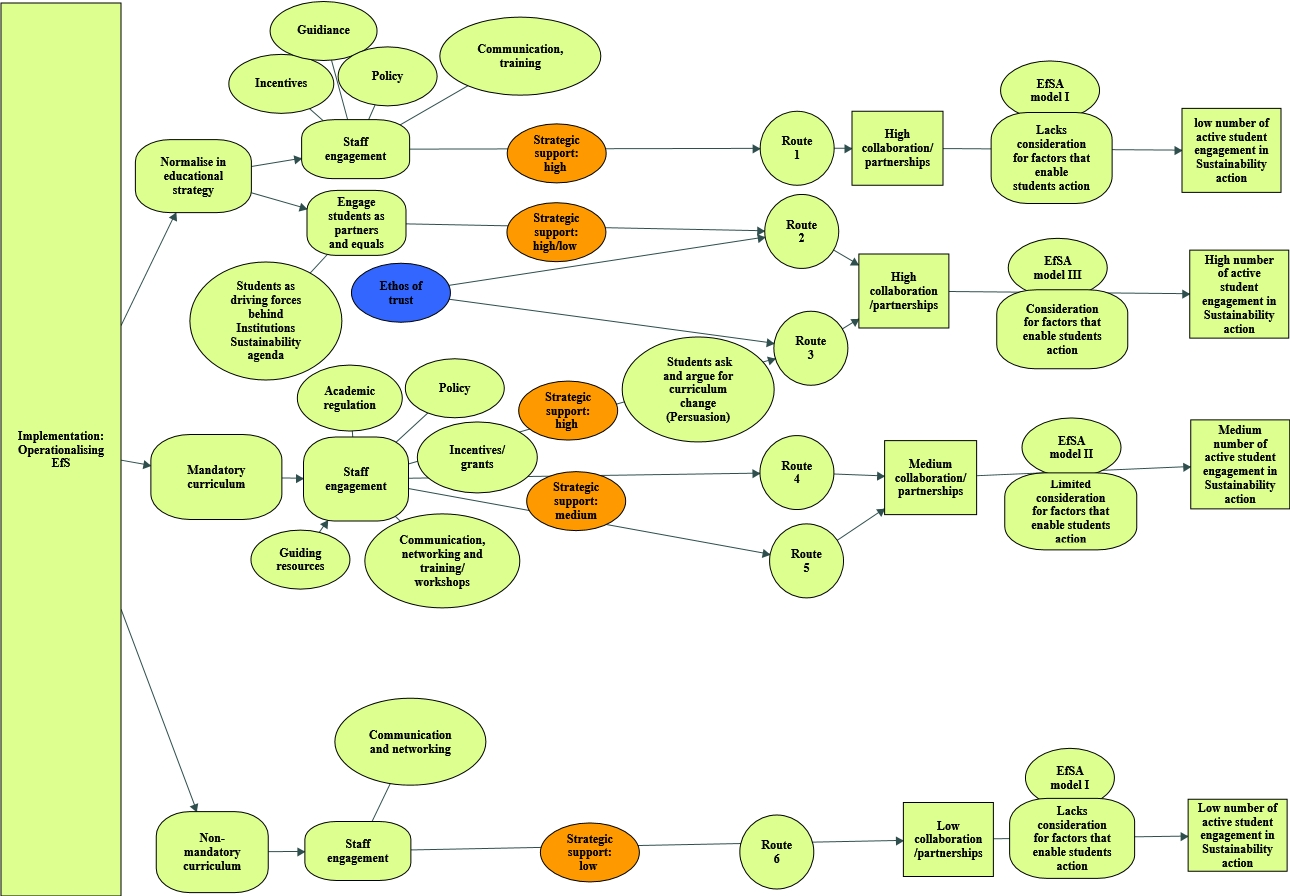


Figure 6.3. EfS outcome in relation to the institutional context and approach (EfSA model) to curriculum design

in itself poses as a barrier to staff engagement, as HEI EfS lead 7 statement indicates “*it is also about the receptivity of staff to link the ideal into their teaching. […]. Some people are doing this already, some people that are invited to would make the connection and some people would either not buy into the agenda or they didn’t see it as relevant*” (HEI EfS lead 7). Though communication and networking may be useful for informing about the agenda, as HEI 8 who has been persistently promoting understanding of EfS amongst staff, finds, it can be challenging:

*“We are starting to get that change in culture, where people are saying oh I see why this is important to the curriculum. Though it has taking me a bit like two or three years to kind of get to the point, to the meetings and have those conversations about the curriculum side of things. We’re starting to see that turn very slowly. And to change that understanding (…) has been difficult and it is about that change in culture.”*

As Figure 6.3 also shows, EfS leads having medium and high numbers of active student engagement, tend to have medium to high level of management support respectively, and indicate they generally go beyond communication and networking to drive the EfS agenda through mainstream institutional practices and systems which they indicate are crucial steps to addressing unreceptiveness of staff which can occur undermining their awareness of the agenda.

HEI EfS leads having low active student engagement as an outcome, who have EfS as non-mandatory and are communicating and networking to drive EfS implementation, report they are tending to find; staff feeling “*a bit threatened by someone else who is doing similar stuff*” (HEI 9), as EfS is not for one particular discipline, rather it is to be owned by all – staff tend to be overprotective of their pure course content, and this is typical as has also been found in efforts elsewhere to promote collaborative working in HEIs (Karban and Smith, 2006); ‘*telling them what to do does not go down well at all*’ (HEI 8) – this is no surprise as other research (Appel et al., 2003; Peet el al., 2004) also find that telling academics who especially are experts in their respective fields how to embed EfS within their specialist areas can result in resistance; and also, working with non-academic staff/departments can be “*quite a challenge […], [as] departments like to work very separately*” (HEI 8) – this is typically as a result of decentralised management and bureaucracy inherent within HEIs (Velazquez et al, 2005; Wooltorton et al., 2015).

Staff engagement challenges are not unfamiliar to institutions making advances, that is those having medium/high number of active students’ engagement here, and even as Sterling’s (2012) Future Fit Framework (which includes suggested pathways with which they can be addressed) indicates, these barriers are common. Here the experience of this group of Institutions, is that where staff have very low awareness of sustainability, lack understanding of EfS or indicate concerns about being non EfS experts, it acts as a barrier:

*“People still don’t know an awful lot about and it, it is about having conversations with people to make sure that they realise how relevant it is, and how easy it is, and the benefits of making sustainability part of their courses for example that they teach* (HEI EfS lead 1).

*“A lot of the barriers I have is supporting academics to actually help them understand where or how those agendas are already in their disciplines they just need to make them explicit” (EfS lead 10)*

*“Institution Barriers I think we encounter are sometimes you get individual managers staff who are experts in their own discipline so they don’t feel that they are experts in sustainability, and we overcome those partly by offering them training opportunities and professional development”* (HEI 4)

These latter group however (Institutions with medium to high number of active student engagement) unlike the former (those with low number of active student engagement) tend to have EfS as mandatory in their curriculum, with the data indicating they are even going beyond this by using a push and pull approach to gain staff engagement. That .

HEI academics do not like to be told what to do, which is backed by the autonomy they enjoy, is common knowledge and repeatedly came up within the interviews. Though Scott et al (2011) indicates where EfS is required in the curriculum is a strong indication of it being top management priority which attracts buy in, and the evidence here (see Figure 6.1) indicates where incentive schemes run alongside policies and regulations making EfS mandatory, staff engagement increases.

*"* *underneath that policy level, […] we had a scheme […] where we started to incentivise and support our staff to interpret and apply sustainability, and we offered them major grants to help them get going and experiment with this. And that was the main feedback, that this was really popular, people felt that that had respected their professional expertise, whilst also supporting them to develop. Finding that balance of giving a bit of framing but not too much and then helping people to interpret and develop, that is the kind of approach they said they liked” (HEI EfS lead 5)*.

Meaning if current systems and structures within institutions (as HEIs generally) do not support efforts to infuse EfS it would be almost impossible to make advances, as one of the EfS lead with low levels of student engagement acknowledges and stresses:

*“we are part of the system, although we can do things to try to navigate that system in the best way possible, we are still part of the system. So, it is difficult to take action in many respects, […] it’s not that easy to take real action because there is a context”* (HEI EfS lead 9).

One HEI on the other hand, is focusing on student engagement rather than staff as Figure 6.3 indicates, this institution is normalising EfS within the curriculum, and is one of the two HEIs experiencing high number of active student engagement. According to this EfS lead (HEI lead 2), EfS is being embedded as “*part of normal business and operations of institutions*” and the aim is for EfS not to be noticed, even though it is becoming “*part of the fabric of Institutions it doesn’t need to be mentioned*” as sustainability. This indicates the approach they have adopted may be to bypass issues with staff engagement or by default it enables them to do so. This does not mean that they do not engage staff but the focus here is on students being enabled to be active co-partners in the Institutions efforts on sustainability, which the EfS lead indicates is effectively contributing to driving EfS implementation. Earlier research by Peet et al (2004) which looked at involving students as a strategy for EfS implementation found that this did not lead to staff infusing it as they tended to see it as resulting in lowering the standards of their courses. However, between the time Peet et al’s (2004) research which was done in Netherland was carried out, and this research, the landscape within UK HEIs has changed, as students are now responsible for their fees, and are projected to increasingly have more say over their course content (discussed in Chapter 2). Importantly too, where the students in Pete et al’s (2004) research were given information and shown examples on how to include Sustainability in their courses, HEI EfS lead 2 states we are “*really making sure students are at the centre of everything we do around sustainability not just we tell them what to do and they must do it – they are the driving forces behind i*t”.

HEI EfS leads place emphasis on the role a culture of collaboration/partnership plays in enabling EfS. The two EfS leads (2 and 4) with high number of students’ engaging in sustainability action, who also have high level of top management support (though inconsistent for one of them), indicate that an ethos of trust drives their culture of collaborative partnership between their staff/students, which has been crucial to their success. HEI EfS lead 4 indicate they have developed a strong ethos of trust within their community with which they are pushing past the traditional silo boundaries to enable collaboration and partnerships for EfS*.*

*“the whole ethos of what we do at here, is that we do it together, we don’t stick to our discipline or activity silos”* (HEI EfS lead 4).

For HEI EfS lead 4 whose route to EfS implementation is focused on staff engagement, their approach to fostering this ethos of trust is by “*getting a research lead, an academic lead and an estate lead all working together and really trusting each other. And working with the student union. So, it is all about partnership. It is all about making sure that lots of different people with different perspective are on one same page*”. While for HEI EfS lead 2 whose route to EfS implementation is focused on the students, they build trust by “*simply treating students as equals*” […] *engage students as partners, […] we have got a track record of working in partnership with students. Once you’ve got that track record going that trusts passes down the ages, passes down the years”*. Two HEIs from the group with low levels of active student engagement also acknowledged the role collaborative culture can have in enabling EfS within their communities, however lack of management support appears to pose as a challenge. These EfS leads appear to be personally wanting to drive a culture of collectiveness/togetherness, though they give no indication this has gone beyond their personal aspiration or that of their team. For example, EfS lead 7 indicates a sense of togetherness and sharing has been crucial to motivating him and other staff who he is driving EfS with but gives no indication this spreads more widely within the institutional community: “*I don’t feel like I am on my own and the people who are doing it with me don’t feel that they are on their own, and that is sustaining our energy and our motivations, and it makes it more likely that we’re going to succeed*”. HEI lead 9, explicitly states this approach has not got institutional level buy in, albeit something she personal aspires to:

*“it is not only about the curriculum and the students but also […] there is something a lot more holistic about it, which is also about how [people] deal with each other,* *how we engage with nature, how we engage with each other if that makes sense. Those are my thoughts, I don’t think that the University would agree with it”*.

It is no surprise that institutions who approach their EfS implementation by driving an ethos of trust are successfully enabling a high level of collaboration and partnership within their institutions, as a four-year detailed study to identify factors that foster such practice between academics also found driving an ethos of trust enables culture change, allowing common and divergent understandings to occur, relationships to be built and be sustained and things to happen across structures (Shore and Groen, 2009).

While staff/student collaboration and partnership for scaling up EfS implementation is important, students’ engagement in sustainability action on the other hand is also hinged on the models underlying EfS curriculum design (see Chapter 5). As Figure 6.3 shows, even though EfS implementation route 1 benefits from high level of strategic support, due to the use of EfSA model I which lacks consideration for factors that enables students’ action for sustainability the outcome could largely lead to low number of students engaging in actions for sustainability. On the other hand, those using implementation route II and III who also tend to have high level of strategic support, as they are using EfSA model III which considers the factors that enable students’ action for sustainability, they report high outcomes in terms of active student engagement. Hence, EfS that enable students’ action for sustainability is a matter of scaling up implementation efforts, and importantly also about the approach to curriculum design.

## **6.5 Discussion**

The evidence indicates that relatively few UK HEIs are formally engaging with the EfS agenda. Here, 41 of 148 HEIs were identified as having formal EfS agendas HEIs but only 17 were confirmed as active (that is working to embed EfS within their curriculum) with 10 having participated in this research. As summarised in Table 6.3, thirteen years ago, in 2006, Lipscombe (2009) also sent out a postal survey to all HEIs on the Government approved list-140 at the time- to investigate extracurricular EfS interventions and 72 HEIs responded. It is important to note that as at the time of Lipscombe’s (2009) survey, that is 2006, it was the beginning of the decade dedicated to Education for sustainability (DESD 2005 -2014), lots of activities and awareness raising was going on within the sector, not least the UK where at this time, central government support for EfS was high for EfS (see Chapter 2.3.2.1). However, there are indications EfS activities slowed down towards the middle of the DESD which was attributed to central government support haven worn down, as authors stress government support is crucial to HEIs engagement with the EfS agenda – which the evidence here (Chapter 4) supports. On the other hand, it can be argued that of the 72 HEIs who responded to Lipscombe’s (2009) survey, it was less than half that were engaging with EfS. The survey findings indicate it is between 4 to 30 (5 to 42%) of the 72 HEIs that are embedding EfS in their core curriculums across departments, giving students sustainability experiences within the extra curriculum sphere and significantly prioritising EfS. If going by the number of HEIs who generally responded to Lipscome’s (2009) survey, that is the 72 HEIs, it can be said that were engagement with EfS was initially strong, this has however dropped to 17/16 HEIs in recent times, however if going by what Lipscombe’s (2009) survey data reveals, it was about 30 HEIs that indicated any significant engagement with EfS, which falls within the range of the 41 HEIs identified here as EfS practicing institutions - though only 17 are confirmed as active at present. Very resent research by Fiselier and Longhurst (2017) in 2017, that is two years after the findings here, supports what I found, as they carried out a web search of all UK HEIs -159 in total - to investigate the extent to which HEIs reference the role of EfS in the specification of graduate learning outcomes and the approaches to teaching, learning and assessment, they identified 16 HEIs as giving indication of engaging with the EfS agenda. Hence, whether taken that EfS engagement has declined over the years or has always been relatively low, what is clear is that currently, only a very small number of them are engaging actively with the agenda.

Table 6.3. Findings on the number of UK HEIs engaging with EfS within the context of the wider body of literatures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Authors** | **Focus of study and findings relating to the number of UK HEIs actually engaging with the EfS agenda** | | | |
|  |  | All used UK Gov approved HEI list | | Number of EfS HEIs identified |
| Year | Total no |
| **Lipscombe, (2009)** | Use of surveys to investigate the use of extra curriculum intervention in relation to EfS across the UK HEI population | 2006 | 140 | 72 |
| **This thesis** | Web search to identify EfS practicing HEIs in the process of carrying out the research in this thesis | 2015 | 148 | 17 |
| **Fiselier and Longhurst (2017)** | Web search investigating the extent to which HEIs reference the role of EfS or the guidance in the specification of graduate learning outcomes and the approaches to teaching, learning and assessment. | 2017 | 159 | 16 |

Figure 6.4 brings into sharp focus how EfS is currently mainly reliant on top down management support within EfS practicing HEIs. Staff engagement (as presented in section 7.3), particularly academics, continues to be a key challenge to EfS implementation, with most being passive participants in efforts to embed EfS. Where academics who Brinkhurst et al. (2011) refer to as middle-out change agents, are being encouraged to voluntarily engage with the EfS agenda there is not much momentum there as low number of active student engagement is reported in such institutions. Where the main push is top-down mandatory requirement for EfS implementation, medium number of active student engagement is observed. Where the approach is top-down (EfS as mandatory or being normalised in the curriculum) and bottom up where students as co institutional sustainability partners are also main driving forces or are arguing for middle out (academics) to engage with infusing EfS within their learning experiences, the outcome is high active engagement of students. This is not to say there are not cases where academics are known to independently be infusing EfS within their courses or further still championing (including the few EfS leads who took part in this research that are volunteering their time) its integration within their Institutions curriculum, but as the activities at the collective/structural level of EfS implementation, EfS leads have spoken about (as presented above) shows, they generally tend to be non-active participants.

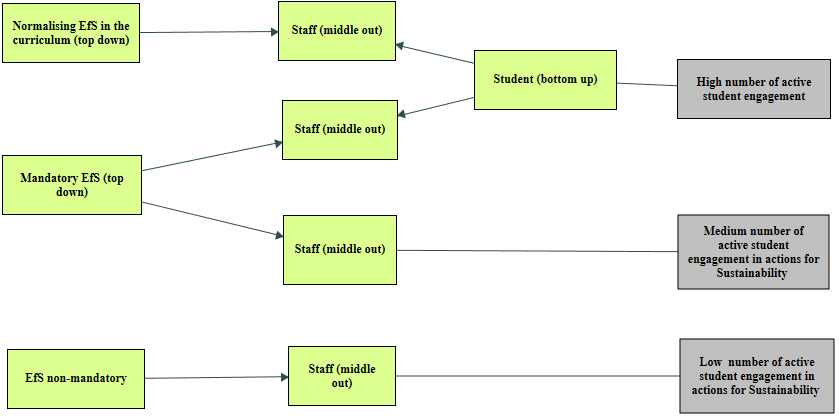


Figure 6.4. Operationalising EfS: top-down, bottom-up and/or middle-out change?

That academic staff engagement still remains a persistent challenge is no surprise as EfS key documents/research (Sterling, 2012; Martin et al, 2014) to show this, I however agree with Brinkhurst et al., (2011) that they should not be overlooked. Brinkhurst et al., (2011) carried out a research which looked at the interactions of the actors within HEIs and their role in organisational change related to campus environmental sustainability. The research which is on Canadian and American Institutions focused on sustainability initiatives and found that while top-down -management and bottom- up students tend to be the ones engaging with sustainability initiatives, academics on the other hand when they do engage achieve lasting progress towards sustainability. I think whether we bypass academics by directly engaging students in actions for sustainability (including direct work placement, or some form of social action like working with the poor), or we enforce academics engagement and they remain unwilling to engage, or even them doing so out of it being a requirement, there is tendency that the innovation that can result from collaboration between academics and their students may be missed, hence the full potential of students as active agents for change towards a sustainable world may remain largely untapped.

Like Tilbury and Ryan (2013), I also consider the role students can play to catalyse academic staff engagement towards a model where there is collective leadership for EfS. This lack of academic staff engagement (due to mistrust of the EfS agenda as covered in Chapter 2), undermining top-down change for EfS, is what led Tilbury and Ryan (2013) to question whether it is actually achievable to influence the entire education mechanismand to assert that for this to be realised within Higher Education, it will be necessary for students to actually demand for change to their curriculum when they become responsible for their school fees with plans for this to happen in motion at the time.

*“Responding to sustainability through the fundamental educational thrust of university life certainly requires a mandate and demand from students, if it is to satisfy challenges from academics suspicious of the policy directives that surround crosscutting education agendas such as ESD.* This is particularly relevant in the context of policy changes affecting UK higher education and concerns about the move towards marketised and privatised models of the university” (Tilbury and Ryan, 2013 p.7)

It is now a reality that students are responsible for their schools’ fees, however if or how this has influenced them to step up to make EfS a mandate for their providers is not yet known but surely is a recommended area for further research.

Also, in considering the external factors which affect top management support for EfS, I argue that wherein they present as barriers, therein also lies opportunities to enable true partnership for EfS even beyond Institutional walls to include other key stakeholders. Little support and no real push from Government and businesses as well as sector wide initiates like TEF (Teaching Excellence Framework) are the external factors identified as affecting strategic support for EfS. These external factors generate internal ones, as where an existing forward-thinking top management may personally prioritise EfS undermining the external environment, when transition occurs, the new management (as is typical) may in seeking to align the institution with the environmental conditions focus on key sector wide agenda like the TEF (Teaching excellence framework), which is resource intensive. It is no surprise that the data indicated that there is no real push from the UK central government for EfS at this time, as the literature review in Chapter 2 had already indicated where there had been initial support, there has been a gradual withdrawal of Government and its agencies (HEFCE and in turn it funded Higher Education Academy) over the years. Businesses leaders on the other hand, on the global stage according to McKinsey Global Institute (2014), are increasingly (from 21% in 2010 with a steady moved to 43% in 2014) aligning their strategies with the Sustainable Development goals, hence the demand for sustainability graduates is projected to rise. While TEF is a body which HEIs join to demonstrate that they offer high quality education to students. Though TEF is an independent public body, it is guided by the department of Education, and has a board with responsibility for developing strategy, but is advised by a panel of students. Amongst its several KPIs in terms of outcomes is “*Employers that think graduates are equipped with the right skills and knowledge*”, this however is being developed but expected to be available in Autumn 2019. With businesses tending to stress that HEIs do not understand or meet their skill needs (Universities UK, 2016), and students (apart from their personal concerns for sustainability) calling for EfS to be embedded in their learning, as they perceive it is of importance to their future employers (NUS, 2018), it is interesting to watch this space which may present as a platform, where real partnership for EfS between, government, business, institutions and students themselves may be fostered. Though, against the back drop of Brexit (Britain’s withdrawal from the European Union as mandated by its people through a referendum), how this plays out in the short term and long term in terms of the demand for sustainability graduates is not known but is surely a key area that warrants monitoring and further research.

## **6.6 Conclusion**

This Chapter set out to investigate the context within which EfS leads are working to deliver EfS in relation to the number of active student engagement that they are experiencing. The findings are based on the interviewing of 10 UK HEI leads. Interpreting the findings based on the frameworks of Littledyke et al’s (2013) systems approach and Thomashaw’s (2012) campus as learning lab, this research indicates though management putting the right Infrastructure in place provides a means by which to role model sustainability for staff and students, however collaboration and partnership with Estate staff is key to harnessing learning linked to it (e.g. using institutions practices on energy and biodiversity management as a communication tool or in seeking opportunities to give students active learning experiences – see section 6.4). Same as enabling students to engage in sustainability actions goes beyond top management support for making EfS mandatory/normalised in students learning, to be a matter of partnership and collaboration that either directly facilitates students’ active participation and/or staff engendering their students to actively engage. Where there tends to be high strategic support (leadership and resource), the evidence indicates this is associated with the building of an ethos of trust (addressing structural issues, e.g. enabling cross departmental working) which facilitates high numbers of staff/student engagement, on the other hand, where there is inadequate to low strategic support (leadership and resource), such an ethos is lacking, with medium to low numbers of staff engagement for EfS observed. Overall, even with high level of strategic support, leading to collaboration and partnerships that enable EfS implementation, it is with consideration for the model underlying institutions approach to curriculum design that facilitates students’ actions for sustainability. Hence, the evidence indicates, if seeking an EfS implementation outcome that enable students’ action for sustainability, it is a matter of the level of strategic commitment and approach to EfS program design.

# **Chapter 7 Enabling Higher Education students action for sustainability: perspectives**

**7.1 Introduction**

The case study ‘Whole Earth?’ presented in this Chapter is an illustration of how HEI students respond to calls for sustainability actions and was undertaken in order to test the conclusions of UNESCO (2014) and Sterling (2014), that despite the global efforts made during the DESD there was little evidence to suggest students sustainability knowledge and pro-sustainability attitude was translating into action for sustainability. Which is also a key finding of students self-administered surveys carried out by EfS practitioners; Sammalisto et al., (2016), the value/attitude action gap was found, while Hereen et al., (2016) which goes further to acknowledge the socio-psychological factors that largely influence this gap (see section 2.3.1), found a weak relationship between knowledge and action. WE? was established based on the principle that if students learned more about sustainability challenges and proposed solutions, they would take action to demand they learn about how to implement these solutions; of which several of the Institutions who hosted it aligned with this Emancipatory approach to student engagement. However the exhibition also suggested and facilitated the action students should take at another host location (i.e. by creating an Instagram handle, calling on students to post their selfies online in support of sustainability). WE? therefore was a firm example of Emancipatory and Instrumental approaches to sustainability. As it was to be launched at eight locations, it had the potential to reach a large number of students, improving the quality of the data collected.

The WE? only had Instrumental approach to students engagement in the Sweden, this did not occur anywhere in UK, hence the case study includes participants both within and beyond the UK. As the methodology Chapter shows (see section 3.4), unlike preceding Chapters (4,5,6) which focused on unveiling details specific to UK HEIs (response to and approach to EfS), the sole purpose of this Chapter is to illustrate students (in)action for sustainability with which to examine how students respond to the ‘Instrumental and Emancipatory’ approaches to EfS. The EfS programme illustrated here which has both the Instrumental and Emancipatory elements was a rare and unique opportunity to address this Chapter aim, as sustainability action focused initiatives may not be linked to learning (EfS) or may be underlined by only one of these approaches (see section 2.4). It was within the wider pool of data that included students in HEIs outside the UK that a rich description of students (in) action for sustainability that accounts for both the Instrumental and Emancipatory approaches could be fulfilled.

The background information of this EfS programme is detailed in the following subsection, then the Chapter goes on to in four further sections; present the evaluation plan with which the research is approached (section 7.2) and the method utilised (section 7.3), also presenting the results in relation to HEIs approach to enabling students’ action for sustainability and the outcome (in section 7.4 and 7.5), then ends with a discussion and conclusions section (7.6).

### **7.1.1 Background: Whole Earth?**

The ‘Whole Earth?’ is a photographic exhibition which aimed to enable HEI students to take action for Sustainability. Whole Earth? is the successor to the 2006 critically acclaimed Hard Rain project which illustrates sustainability issues in “*a moving and unforgettable way”* to raise awareness (HRP, 2018 np.). The Hard Rain projects had a record 15million views from every continent. Whereas Hard Rain addressed a broad audience and was focused on raising awareness of sustainability issues, the Whole Earth? exhibition was specifically created for Higher Education students and aims to galvanise support for addressing sustainability challenges. As the official title of the exhibition Whole Earth? (WE?) which has a question mark may straight away explain, it intends that students question assumptions underlying the current (unsustainable) ways of doing things and then it is hoped they will take actions to change things. In 2017 WE? was selected as one of three winners of the international UNESCO-Japan prize on EfS in 2017 (UNESCO, 2017), which according to Jamie Agombar (the Head of sustainability at the UK National Union of Students in HRP, 2018. np) and the international jury who gave their commendation for the award (UNESCO, 2017), is a most exemplary EfS initiative for raising awareness and enabling action for sustainability.

Specifically, Whole Earth? is *“an invitation to students and their tutors to articulate the kind of world they want to live in [on social media, which will be brought] together to show political and business leaders support to take the difficult long-term decisions that underpin security for all” (HRP, 2018. np).*

Though Whole Earth? is not part of any HEIs operational plan (to the best of my knowledge), they actively supported it both in the UK and beyond (Scoffham and Consorte-McCrea, 2018), and the exhibition was launched simultaneously in September and October 2015 by the first cohort of host Institutions in Scandinavia and United Kingdom (tabulated in Table 7.1): Loughborough University, University College London, Anglia Ruskin University, Cambridge University, University of Bristol, Canterbury Christ Church University and University of Leeds.

Whole Earth? was set up to be Emancipatory, a host location however introduced an Instrumental element. The Whole Earth? exhibition was promoted as a non-prescriptive (Emancipatory) communication-based approach to raising awareness and enabling action. Programmes that aspire to enable action such as the Whole Earth? which are based on communication tend to focus on providing tailored messages to enable people to adopt certain behaviours (Vezertzi and Lohmann, 2012). Van der Linden (2014) observes three distinctive types of communication models are being used to enable behaviour change with regards to sustainability issues, these are the ‘social- normative’ type which focuses on reaching its audience by tapping on social and moral norms and the other two which are observed in the Whole Earth? exhibition; the ‘cognitive-analytical type’ as taking the Picture in Figure 7.1. as an example, each exhibition photograph is titled and accompanied with descriptive text appealing to rational reasoning; and the ‘affective-experimental’ type as exhibition photos themselves aimed at evoking emotional responses in people. The exhibition had several associated ‘cognitive-analytical type’ activities carried out by the host institutions. At Anglia Ruskin University for example, this was a ‘question time-style event, which was all about how students can help change the word and build a better, fairer and healthier future’. Umea University (2015) included seminars/panel debates’ as a ‘forum for students to discuss sustainability issues, and were also observed to prescribe the actions their students can take (Instrumental), as they asked them to post their selfies on social media in support of a Sustainable future. The aim of these additional activities was to encourage greater participation in WE?; help raise awareness of why the behaviour changes for sustainability are needed and how they can take action. Institutions like Canterbury Christ Church University were actively promoting the exhibition within and across their Institutional communities, to raise awareness amongst colleagues across faculties so they can incorporate it in students learning activities. Academic colleagues were encouraged to consider ways of infusing it in their courses; cross institutional conferences, seminars and lectures with attendance from Institutional delegates from multiple Institutions were held, with sessions led by academics from a wide range of disciplines including health and humanities (see Scoffham and Consorte-McCrea, 2018). As such Whole Earth? created the opportunity to capture and evaluate across multiple locations, HEIs approaches (Emancipatory and Instrumental) to enabling students’ actions for sustainability and students’ response to them, enabling this Chapter to achieve its aim.

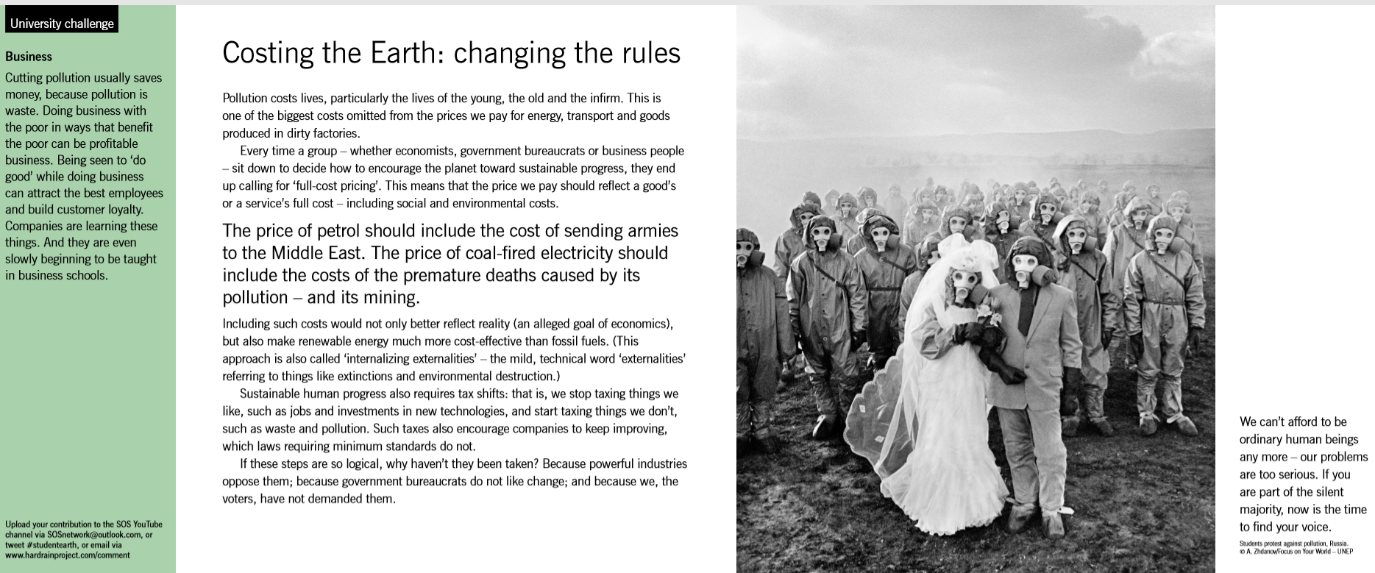


Figure 7.1 Costing the Earth: Changing the roles (Whole Earth? exhibition photographs © Hard Rain Project (Edwards, 2015))

Table 7.1. Locations and dates Whole Earth? was initially launched and HEIs identified as first cohort of hosts

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **Location** | **HEI name** | **Exhibition launch/opening date** |
| **United Kingdom** | Loughborough | Loughborough University | 05/10/2015 |
| London | University College London | 21/09/2015 |
| Cambridge | Anglia Ruskin University | 05/10/2015 |
| Cambridge University | 05/10/2015 |
| Bristol | University of Bristol | 25/09/2015 |
| Canterbury, Kent | Canterbury Christ Church University | 14/09/2015 |
| Leeds | University of Leeds | 15/10/2015 |
| **Scandinavia** | Umea, Sweden | University of Umea | 18/09/2015 |

(Source: Hard Rain, 2015; Loughborough University, 2015; Bristol University, 2015; Anglia Ruskin University, 2015; Canterbury Christ Church University, 2015; University College London, 2015; Leeds University, 2015; Umea University, 2015)

**7.2 Evaluation of Whole Earth?**

“*Evaluation research determines whether a program was effective, how it did or did not achieve its goal, and the efficiency with which it achieved them. Evaluation contributes to the knowledge base of how programs reach and influence their intended audiences so that researchers can learn lessons from these experiences and implement more effective programs in the future”* (Valente and Kwan, 2013 p.83). Evaluation is a broad term for assessing the effectiveness of programmes and can be formative or summative (see Kok and Mesters, 2011; Valente and Kwan, 2013; Wilson et al., 2016; Garba and Gadanya, 2017). The research carried out in this Chapter is a summative evaluation focused on the outcome of the WE programme. Three key lines of debates exit in relation to evaluation research which I considered.

A common line of debate is whether to account for all aspects of human behaviour when assessing the impacts of intervention programmes or approach with broader questions. Behaviour is complex and evaluation models attempt to account for all its complexity (Wilson et al., 2016), or focus on the relevant issues, either way. There is a growing consensus that using and accounting for all the multifaceted aspects of a single behaviour model by its nature is inherently problematic (Hanratty, 2015), particularly for two reasons; the first being that complex models can lead to bringing in aspects to a research that are not relevant (for example where there is no environmental factor influencing the behaviour but accounting for it is embedded in the complex model), secondly, in aiming to address every possible aspect, researchers tend to fail to appropriately address them in-depth (Kok and Mesters, 2011; Garba and Gadanya, 2017) Wilson et al (2016 p.88) argues that, “*it would be more appropriate, therefore, to consider the relevant issues as broader questions, anchored within the literature but applicable across a wider range of behavioural models”*. That is, instead of starting off trying to account for every tiny aspect of human behaviour, it is more effective to use broader questions drawing on literatures concerned with assessing relevant aspects of the behaviour. Wilson et al., (2016) also emphasises that such a model can easily be modified by researchers to suit their research, the product of which is having a common framework which can enable cross-study comparisons. What however is crucial across these approaches, that is, whether in using a complex web of questions as aiming to cover all aspect of a behavioural model or when approaching with broader questions, to be effective, one has to make sure that the questions are relevant.

The second key line of debate is in relation to the methods used in evaluation research. Quantitative method is seen as being appropriate for research that is focused on “*provi[ding] numerical information on quantifiable program aspects that can be analysed with statistical procedures in a rather objective way. When concrete hypotheses on program effects exist, and when the establishment of goal achievement rather than an in-depth understanding is of main concern, quantitative methods are the methods of choice”* (Vezertzi and Lohmann, 2012 p.35). At such, it can be taken that the method to utilise is driven by what outcome/output/impact of the research is being evaluated, where quantitative method is best suited for research that is focused on quantifying, for example the number of people who took part in a targeted action, while qualitative is best suited to go beneath the surface to gain insights on the reasons why individuals did or did not engage in the action.

The third is in relation to the credibility of the research, when the researcher is internal verses when external to the programme design team. The arguments are while internal evaluators’ may be more knowledgeable on the details of the programmes there is the tendency to be bias towards or interest in reporting certain outcomes (Kok and Mesters, 2011). While on the other hand, though external evaluators may not be bias, they may lack in-depth knowledge of the programme which can impact on the data quality (Kok and Mesters, 2011). Hence, whether one is carrying out the evaluation as internal or external to the intervention programme team, both have the potential to impact on the research, hence, it is important to make ones’ position clearly stated for readers and users of the research.

Effective evaluation is about asking broader questions that can be linked to relevant literatures, with the pragmatic stance guiding this research allowing the utilisation of either or a combination of qualitative and quantitative methods. Although I acknowledge that as an external evaluator I may not have all the information about all aspects of the WE? exhibitions I now put forward a plan in an attempt to evaluate the programme’s outcome. The broader questions with which I approached this evaluation are derived from the extensive literature review in Chapter 2 (see section 2.3and 2.4) which are considered relevant to meaningfully illustrate the phenomenon under study. This entails describing the EfS programme/approach, its intended outcome, to examine the outcome in relation to the approach (i.e. emancipatory and instrumental). In critically assessing the outcome of the programme, that is students’ engagement in the social media conversation, in relation to the approach, I will be considering the following questions;

* What was the desired action that the WE aimed to get students to engage in?
* What type of Intervention was utilised?
* What approach was used (e.g. Instrumental, Emancipatory)
* How successful was the intervention at bringing about the desired action?

Pragmatically considering these questions shows that they necessitate a qualitative approach to answering them. As can be observed from these questions above, this research is exploratory and seeking new insights as opposed to confirming a hypothesis - the former is the strength of qualitative research and the latter quantitative research. Hence considering, qualitative research is most suitable for answering the research questions as also initially stated in the methodological chapter. I now turn to highlighting the means of data collection (see also section 3.4.1.1) and also to document the data collation and HEI participant identification process.

**7.3 Social media data collection and analysis process**

Addressing these questions required capturing and analysing the social media conversations relating to the Whole Earth? exhibition. The Whole Earth? called for people to take part in discussions raising from the exhibition on Twitter - a platform where people post and interact with short messages (Gil, 2018), however some host Institutions also encouraged the use of other social media platforms. The Swedish Institution (Umea University, 2015) promoted the use of Instagram – a platform where people interact with photos and short videos (Moreau, 2018), and some of the UK host Institutions (e.g. Loughborough University and Bristol University) also informed students that they could respond directly on the Hard Rain and Students Organising for Sustainability (SoS) YouTube channels - which is a video-sharing/streaming platform (YouTube 2019). Institutions were wanting people to have as many options as possible to join in the conversation, in a bid to facilitate their engagement. Hence, a general web search with the terms ‘Whole Earth?’ and ‘#studentearth’ were made during the first eight weeks - September 1st to October 30th, 2015 -where posts made to any social media sites were collected and analysed. Posts were found on Twitter and Instagram with the #student earth and YouTube channels came up with the term Whole Earth?

***7.3.1 Data collection***

Extracting and analysing large volume of qualitative data set from social media websites, is typically done with the aid of computer softwares/tools, but it became apparent they had a key limitation which could impact on the data. Various firms provide data capture services, which can be made available to researchers at a financial cost (SMC, 2018). An alternative to utilising such firms particularly for a do it yourself approach expected of a PhD researcher, is the use of NVivo, which most institutions like Anglia Ruskin University make freely available to students. NVivo is a qualitative data analysis computer software which has tools for capturing, processing and managing the analysis of small or large volumes of unstructured textual data (QSR, 2018a). The NVivo approach to social media analysis, can be said to have three key phases; 1) capturing the data from the social media sites with web browser extension tools (e.g. NCapture) 2) the browser extension is also used to transfer the data to NVivo either as a dataset or PDF 3) and then the reiterative process of coding, visualising and identifying meaningful insights from the data set ensues (McNiff, 2016). While this research found the 3rd phase of NVivo to be particularly useful, it however became apparent that Nvivo’s NCapture’s interaction with social media APIs raises key issues that can impact on the data quality of this research. Researching why this is the case, it was found that social media sites now tend to have APIs which limit the data one can retrieve with softwares. API is a set of functions and procedures, that acts as an interface between how softwares access the features or data on social media platforms (Lomborg and Bechmann, 2014). Restricted access to social media data is not particular to Ncapture but is also an issue for other softwares (e.g. Twitter Search API and Streaming API) as social media organisations over the years have programmed their APIs to reduce the level of access to their data. To illustrate this issue on Twitter, Ncapture cannot capture hashtag (#) data older than seven days and is limited to extracting a sample of the targeted data set (QSR, 2018b). Meaning not all tweets that is seen in the browser is captured by Ncapture. Using software even when they are only able to extract limited data may not significantly impact on research with extremely voluminous data set, but there is an obvious difficulty in accepting the reliability of such an approach in this research which requires taking accurate account of all (particularly students) who participated in the social media conversations. To address the short coming identified with using softwares to extract data from social media sites (that is, social media APIs limiting the amount of data a software can automatically extract from their sites) all the data were retrieved manually, organised, and with the aid of NVivo, analysed as summarised in Figure 7.2.

Step 1: Capture and organise

* Each relevant page on the three social sites were downloaded and saved as PDF and saved in a file. Where the text was not in English, these where translated using Bing and Google translators, audio data were also transcribed at this point and saved in the file.
* PDFs were converted to word documents.
* Working through the word documents page by page, case files were opened for each participant identified, and any contribution participants made elsewhere were added to their already existing file to eliminate double counting. For example, someone may start more than one conversation thread, and may also have reposted someone else’s comments, so all data pertaining to such an individual is placed in one file. When all participants had been identified and all contents filed, the content of each file was recorded on Microsoft Excel spreadsheet in themes (see Appendix 5) without participants personal identifying information for anonymity. As the Excel document which is in Appendix 5 shows, participants are serially numbered on the first horizontal column, while their attributes are recorded vertically.

Step 2: Import

* Participants files and the excel spread sheet were imported into NVivo for further analysis

Step 3: Query and visualise

* A reiterative process of querying and visualising the data ensued; whereby for any new insight which emerged, files were revisited to ensure their contents are fully coded to all relevant themes (e.g. by exhibition picture) and linked to the relevant group (e.g. staff, students, sector, profession).

The detailed approach adopted in the data extraction phase, whereby every relevant webpage was captured manually one by one, was very time consuming, but it ensured all participants who took part in the Whole Earth? social media conversations within the time period data was extracted are included in this research.

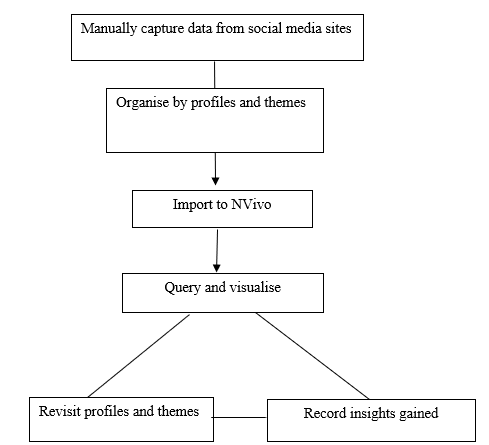


Figure 7.2. Authors social media data extraction to analysis process diagram

***7.3.2 Participants responding to Whole Earth***

A total of 982 individuals and organisations profiles responded to Whole Earth? by posting onto the social media platforms, Twitter, Instagram or YouTube - during the two-month period data was collected for this research (September 1st to October 30th). Most (84.32%) of the participants were found on ‘Instagram’, some (15.27%) took to ‘Twitter’, while a few (0.41%) took to ‘YouTube’. Across all three social media platforms posts within the studied eight weeks period, changed from 16 tweets/videos/picture uploads between 1st – 08th of September 2015, to peak at 632 between the 7th -21st of September (as Table 7.1 shows this is the week University college London and University of Umea launched the exhibition). There was then a steady decline in activity to 4 by the end of the eight-week period. Although the exhibition took place only in the UK and Sweden, participants whose locations were publicly accessible, indicated that they were from one hundred and thirty locations within eleven countries. The majority who posted were from Sweden and from the United Kingdom although there were small numbers whose ‘home’ location was listed as Afghanistan, Kenya, Canada, Pakistan, Colombia, United States, Australia and France. This indicates that Whole Earth? was attracting a multicultural audience (see Appendix 5).

Of these social media profiles, 304 were identified as that of students, individual staff members or corporate HEI social media accounts of those at the hosts locations. For around a third of the population (312/982) it was possible to identify the ‘home’ location of the posts. All but eight of these were posted by people whose profile location was one of the exhibition sites. 243 of these were from students and 61 from staff/corporate accounts as presented in Figure 7.3. Unfortunately for the remaining two thirds of the posts (594) their organisational affiliation and location details were not disclosed on their social media profile pages. The majority of these (585) were secondary posts ‘liking’ or commenting on the Whole Earth? posts of Umea students on Instagram. Available social media details on the remaining 77 participants profile on the other hand, indicate that they are from several sectors and diverse walks of life including politics, media, teachers, energy sector workers, spiritual organisations, sustainability focused organisations and professionals. Hence, based on the information publicly accessible/available on the social media profiles, the sectors/organisational affiliations of 594 of the population could not be confirmed, 77 were found to be from several walks of life, 304 of the population are identified as HEI participants in hosts locations as presented in Figure 7.3, while the data indicates eight HEI participants are in non-host locations. Having identified the relevant HEI participants, I now turn to presenting the findings in the following section.

Figure 7.3. Number of HEI staff, corporate and student profiles who took part in the Whole Earth? social media discussions in the location of the first cohort of host Institutions (n: 304)

The next section presents the research findings in two subsections. In section 4.4 the findings on how HEIs were enabling students’ active engagement in the social conversation is discussed in three parts; the desired action that the WE? aimed to get students to engage in, type of intervention was utilised, what approach was used. In section 4.5 the findings on the outcome in terms of students’ response is presented, with further discussions in section 4.6.

**7.4 HEIs enabling students take action for sustainability**

As summarised in Table 7.2, the Whole Earth? exhibition was made up of 6 x 10m canvas banners, which strung together made the installation 60m long, which were displayed at various locations by the host Institutions. Many UK host institutions Loughborough University, Canterbury Christ Church University and University of Leeds, as well as Umea displayed these banners on their campus. Other HEIs chose to display the exhibition beyond their campus. For example, Anglia Ruskin University and University of Cambridge, who jointly hosted the exhibition used a public green space Parker's Piece, to ensure the exhibition was in a location frequented by both sets of students. Bristol University formed a trail along six publicly accessible sites at the University as shown in Figure 7.5. This indicates that HEIs were wanting the exhibition to be in sight and easily seen by as many students as possible.

Table 7.2. How and where Whole Earth? was displayed across the various locations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | **Location** | **HEI name** | **How WE? photos where displayed** | **Location of WE? display** |
| **United Kingdom** | Loughborough | Loughborough University | 6 banners, each 10 meters long displayed with the use of scaffoldings | Central site on campus (Shirley Pearce Square) |
| London | University College London | Adjacent to student union office (Gordon Square Gardens) |
| Cambridge | Anglia Ruskin University | The centre of city - by their campuses (Parkers Peace) |
| Cambridge University |
| Bristol | University of Bristol | Six publicly accessible sites at the University (formed a trail) |
| Canterbury, Kent | Canterbury Christ Church University | On campus |
| Leeds | University of Leeds | Outside student union office on campus |
| **Scandinavia** | Umea, Sweden | University of Umea | Central site on campus (Universum) |



Figure 7.4. Leeds display Whole Earth? exhibition outside University Union (Participant 3)

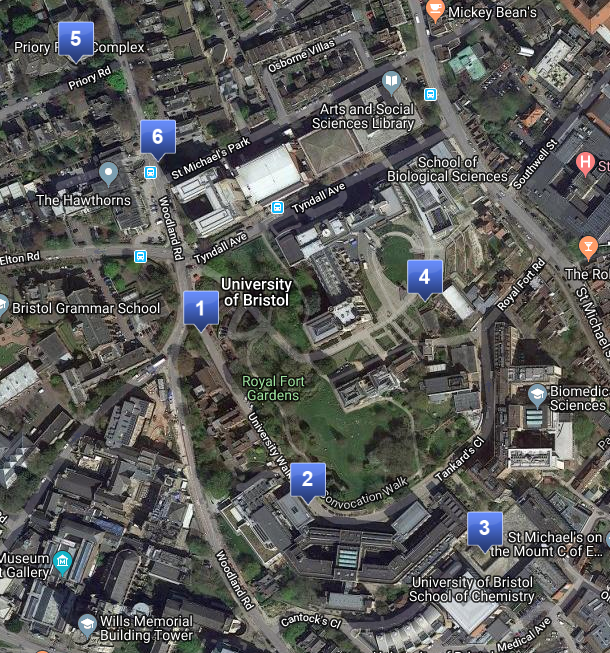


Figure 7.5. Whole Earth? Bristol trail (Bristol University, 2015b)

A key consideration in establishing behavioural outcomes is enabling individuals to achieve their required behaviour (Michie et al., 2011). Enablement is about capability and opportunity to motivate the action; capability is ‘increasing means/reducing barriers to increase individual’s psychological/physical capacity to engage in the activity concerned (which includes having the necessary knowledge and skills) and opportunity is about ensuring external factors that can hinder or enable the behaviour are addressed’ (Michie et al., 2011 p.4&7). The data indicates that while communication was the general intervention type to enable student engagement, there are fundamental distinctions in the approaches HEIs took in the United Kingdom and Sweden:

Table 7.3. Social media profile of Whole Earth? HEI participants: UK staff and corporate profiles

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Country** | **Location** | **HEI name** | **Pro vice Chancellor/ vice provost** | **HEI - Head of Institution, School, Department** | **Corporate profile** | **Academic staff:**  **Professor, Senior Lecturer, Lecturer** | **Non-academic staff:**  **sustainability, Environmental,**  **Communications and Engagement officers/**  **coordinators/**  **managers** | Total |
| **UK** | Loughborough | Loughborough University | 1 |  | 4 | 1 | 3 | 9 |
| London | University College London | 1 | 2 | 15 | 2 | 7 | 27 |
| Cambridge | Anglia Ruskin University | 1 | 1 | 3 | 1 | 2 | 8 |
| Cambridge University |  | 1 | 3 |  | 1 | 5 |
| Bristol | University of Bristol |  | 1 | 4 | 1 | 1 | 7 |
| Canterbury, Kent | Canterbury Christ Church University |  |  | 2 |  |  | 2 |
| Leeds | University of Leeds |  |  |  | 1 |  | 1 |
| **Sweden** | Umea | University of Umea |  |  | 2 |  |  | 2 |
| **TOTAL** | | | **3** | **5** | **33** | **6** | **14** | 61 |

United Kingdom

As Table 7.3 indicates most of the UK communication posts came from staff or corporate accounts; whilst it is unsurprising to see Sustainability/Environmental staff (14/59) and management/corporate profiles (39/59) actively involved in promoting the exhibition to students through social media, interestingly only a few of the staff posts were from those directly responsible for students’ education and learning(6/59). Management/corporate profiles and non-academic staff (53/59) made up the majority of those who posted on twitter. When the content of these posts is examined (see Figure 7.7) it becomes clear that many are using social media to communicate practical information about the exhibition or even as a way to promote other events. For example, the only tweet by Leeds University staff was about the location of the exhibition; one of the two Canterbury Christ Church University corporate tweets was about an associated WE event they were holding – “*we're hosting EcoReligion: a faith response to the WHOLE EARTH? exhibition at CCCU!*” (Participant 6), which the other retweeted, and they both also retweeted WE promotional tweets by other Institutions such as the ones below – so much of the social media activity was giving students information about the exhibition or calling on students to engage with the WE? rather than from the students responding to the exhibition.

*“Whole Earth? Exhibition now on display in Gordon Square Gardens! Join the debate on your future #Studentearth”* (Participant 51 - University College London)

*“Come along and get involved with the challenges. #studentearth” (Loughborough University - Participant 25)*

*“The most important thing you can do is to get engaged #Studentearth”* (Cambridge University -Participant 70)

*“Launching WHOLE EARTH #Cambridge with @AngliaRuskin. #studentearth”* (University of Cambridge and Anglia Ruskin University - Participant 46)

“*Have you spotted the acclaimed #studentearth photography exhibition yet*?” (Bristol University - Participant 5)

UMEA: Sweden

The data indicates that at UMEA the exhibitors of WE? relied less on communication, rather appeared to have considered capability as well as the opportunity for students to engage with the social media conversations. There were only two corporate posts about the event (see Table 7.3) on Instagram (compared to the UK where HEIs busily post/reposted on twitter to advertise the exhibition). Also, they favoured a different social media platform, Instagram. The posts were first to invite students to the exhibition and associated activities and second, to encourage them to “*take a selfie to show the policy makers that the students at Umea University care about the future*” (Umea University - Participant 163). To facilitate this, it is clear from the posts that on-site facilities to take selfies and upload the pictures on Instagram were made available to students. The Swedish HEI, therefore had a predetermined way in which they wanted students to respond, as well as created the external conditions to facilitate them to carry out the action.

Hence, as summarised in Table 7.4, most UK HEIs utilised an Emancipatory approach while the Swedish Institution utilised an Instrumental approach to enable their students to take part in the WE? social media conversations. As most UK HEIs focused greatly on communicating about the exhibition, encouraging students to engage in the online discussions on Twitter and they hope that they will actually take part. This can be classed as Emancipatory approach as there are no indication that they in any form facilitated students’ action, rather students appear to have been encouraged to take part but left to their own willingness to do so. On the other hand, the Swedish HEI approach can be classed as Instrumental, as they have specified a way for all their students to respond, focused on skills (selfie), relied less on communication, utilised socio-technological intervention (facilities for student to take the selfies and upload them on social media was onsite) to provide the opportunity/facilitating conditions to enable students to take the desired/targeted action.

Table 7.4. Enablement of students to achieve the outcome of the Whole Earth? programme by Location

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Factors | United Kingdom | | | | | | | Sweden |
|  | University of Leeds | Canterbury Christ Church University | Loughborough University | University College London | Anglia Ruskin University | Cambridge University | University of Bristol | University of Umea |
| Approach | - | - | Emancipatory | | | | | Instrumental |
| Capability | - | - | Knowledge:  engage in critical conversation about sustainability | | | | | Skills:  Selfie |
| Opportunity | - | - | - | | | | | Social (technological) structure:  Onsight facility to take and post selfie on social media |

**7.5 Student engagement outcome**

As Figure 7.6 shows, very few UK HEI students actually took part in the WE? social media conversations – only 10 of them were identified across the six UK sites where WE? was exhibited. In comparison, 233 Swedish students posted to social media (Instagram) following their viewing of WE at UMEA university. While the data does not indicate how many students attended the Whole Earth? exhibition at the various locations in the UK and Sweden, Bristol University one of the UK host HEIs reported that they “*launched the (…) exhibition at [their] welcome week student fair - and it was seen by 10,000 students in one day*” (Saltz, 2017 p.3),

Figure 7.6. Students who responded to the call to engaged in WE? social media discussions between September 1st to October 30th by County

The exhibition and UK HEIs using communication and Emancipatory means to motivate students’ action to engage in the social media conversations appear to have had little impact on UK students’ motivation to act and even the few who did, did not engage critically. Figure 7.7 compares the number of staff/corporate profiles, the number of tweets they generated on Twitter, with the number of students who took action (joined the discussion) by location. As Figure 7.7 shows; no student took part in Leeds which had one tweet by one staff member; no student was identified as located in Counterbury which had two staff/corportate profiles and 12 tweets/retweets; two Bristol students were identified with seven corporate/staff profile and 22 tweets/retweets. Nine corporate/staff profile promoted the exhibition in Loughborough with 62 tweets/retweets/likes and three students took part in the online discussions. In Cambridge where 13 staff/corporate profiles generated 84 tweets, one student was found to have taken part in the social media conversations. London with the hightest number of tweets/retweets, that is 162, and highest number of corporate/staff profiles promoting the WE ‘24’, only 4 students took part in the social media conversations. That is to say the students who took part in the social media discussions are split between, London (4/10), Loughborough (3/10), Bristol (2) and Cambridge (1/10) host locations. The data shows the two Bristol students tweeting same picture - depicting migration issues - with same message “*challenges students to show how #lawmattersfor sustainable society*” (Bristol – Participant 18), the remaining eight students, identified as being in London (4), Loughborough (3), and Cambridge (1) host locations, were found to have engaged by retweeting corporate/staff posts which either promotes the exhibition or appear to support issues it stands for:

WHOLE EARTH? is coming to #Cambridge! #STUDENTEARTH (Cambridge - Participant 89)

*“Interesting exhibition at Gordon Square Gardens #studentearth*” (London - Participant 132)

"Every university should be aiming for 100% renewables in the shortest time possible #studentearth" (London- Participant 113)

Figure 7.7.Comparing number of staff/corporate profile participants, tweets and the number of students who responded across the WE? UK host Institutions locations

This raises the question of what impact, if any did WE? have. The evidence shows lots of people viewed the exhibition and there was some social media traffic but much of this was promotional. While hosts hoped their students would take part in the discussions, where they engage critically in conversations about a sustainable future, so it can be put forward to the political and business leaders, very few students felt it important enough or had the appropriate faculties to take even modest action (i.e. post to social media). Though, if viewed through the insights we gained from behavioural sciences literature in Chapter 2, it comes as no surprise that the Emancipatory approach that WE? and most UK hosts adopted did not lead to active students’ engagement, as the evidence is still very much that telling or encouraging people to take action without facilitating it largely tends to be unsuccessful.

*“You don't just come out of UCL as great in your subject but as a global citizen #studentearth”* (University College London -Participant 51)

Was Social media a barrier to participation?

Social media plays a major role in students’ personal lives and within their’ learning community, and the trend of using social media among university students seems to be increasing day by day (Armstrong and Franklin, 2008; NUS 2012). The UK National Union of Students (2012) found 96% of 1400 UK students spend an average of 12hours a day on the internet, of which they spend about half the time on work/study and the other half for fun mainly on social media sites. Smith et al (2009) also found that 83% of young Scandinavian population surveyed use social media for daily interactions, fun and communication - students use social media sites to share their study experiences and research projects, educational events, information, and in developing networks. So, on the face of it, it can be assumed students have the capability to engage in the WE conversation on social media. However, while social media platforms are all used for communicating, they utilise different unique forms of communication and their appeal may differ by age groups and even location. As earlier mentioned, on ‘Instagram’ people share photographs and may upload videos, on ‘Twitter’ people post and interact with short messages, while ‘YouTube’ is a video-sharing platform (Gil, 2018; Moreau, 2018). Research by the NUS (2012) shows that overwhelmingly, UK students engage more with another platform Facebook (86% of 1448 population base) and then YouTube (56% of 1448), and they are less likely to use Twitter (41% of 1448), however, UK HEIs mainly focused on calling students to engage in the conversation on Twitter, this in itself may have posed as a barrier to their students’ engaging in the conversation.

Even though in UMEA students were posting on social media, they generally were really only doing so to get a selfie online, rather than engaging in the critical conversations about their (careers/livelihoods) Sustainable future which the WE? called for. Similar to the UK students, the Swedish students who responded did not generally engage critically in the discussions but for a handful. University of Umea as earlier stated, posted, two corporate promotional messages on Instagram and made provison for students to take part in the online converstaion at the exhibition site and 233 students did engage. 231 students who took part in the core exhibtion programe, all either liked or posted their individaul or group (comprising of 2 or more people) photoes/selfies with the same message “*I support #studentearth*”, which emcompases the ethos of the exhibition - students supporting a future where natural and human systems allign. An observation is that unlike the 231who repeatedly posted the same phrase alongside their selfies, two other students posted their personal thoughts, with could be as a result of stumbling on the exhibition (as the latter of the two quotes below indicates) and not being aware of the prescribed actions.

“*craving good literature, sustainable energy*” (Umea - Participant 165)

“*Out walking this beautiful day and cannot ignore the amount of trash everywhere. In the canal, gutters and corners... Ironically, I found this exhibition on environmental issues. Worth thinking about*” (Umea- Participant 169)

That Umea students generally used the same prescribed phrase is unsurprising as it is congruent with the Instrumental approch of the Swedish host, who it appears also went futher than the UK hosts to consider students capability to actually engage on a social media platform. Umea University in specifying a predetermined action student should take, which is take a selfie and post on Instagram to show support for a Sustainable future appears to indicate two things. Firstly, it could be that their population of students are not very conversant/have limited knowledge/understanding of sustainability issues, or secondly it is basically an attempt to make it easy for students to engage in the conversation (Instrumentalist). Answers to this question may require gaining insights from the host at this location, which is beyond the scope of this research. That they further made facilities available on site by which students could take the selfies and immediately engage in the social media conversation do suggest the latter may be the main reason for further considerations on students’ ability to take the desired action. Swedish students’ social media preference could not be ascertained in this research through a literature search, but as at the time of this research, there was a widely shared enthusiasm for selfie amongst youths (Tajuddin et al., 2013; Barry et al, 2015). The selfies themselves which students either took individually or with others, showed students found their engagement fun. Prescribing actions which students are capable of doing - which is fun (selfies) and easy (the message they added to the pictures was easy and straight forward) and providing the means for them to take the action on site appears to have enabled Umea students to engage.

The students in Umea and UK, either taking selfies and posting the same message on social media or retweeting messages of others can be interpreted as students generally liking the exhibition, without critically engaging in the conversation. If the desired outcome for University of Umea was the social media presence of their students in the conversation, then it can be interpreted as they successfully achieving that, though the number of students identified here in relation to the actual number who attended the exhibition, may be another factor with which they interpret the outcome as successful or not. If going by the original idea behind the WE? Exhibition, for students to take part in the online conversation - to critically discuss about their future in relation to the need for a Sustainable world, the way students across the host locations, that is both the general research population of UK and Swedish students engaged, can be interpreted as poor as they did not take part in the critical conversations.

**7.6 Discussion and conclusions**

The research findings show, neither the Emancipatory or Instrumental approach to enabling students’ action for sustainability really worked. Swedish students were exposed to the Instrumental approach, as their institution specified preferred behaviour (that students post selfies to show their support for sustainability), assessed for and removed barriers that may make enacting the action a challenge (making it easy by choosing platforms and targeting skills students already have) and put in structures to facilitate the action (providing facilities to enable students take and upload their selfies on site) (see Wals et al., 2008). This approach, though generally known to be effective, is however criticised (by those who favour the Emancipatory approach) as having “*a focus on behaviour without consideration of the deeper issues and values”,* and the findings of this research appears to corroborate this line of argument (Peter and Wals, 2016 p.183). The premise of the WE? programme (HRP, 2015 np.) was for students to join in the debate on the type of future that they want “*and bring about solutions and action on these critical issues in the context of their own studies or research”* but in Sweden, it appears that in a bid to make it easy for students to take part in the conversation, their general approach of prescribing (they post pictures and all repeated one line “*I support #studentearth*” in essence) how students should engage in the discussion failed to enable students engage at the critical level that the WE? programme aimed for. Also, most UK HEIs on the other hand, appeared to have adopted the Emancipatory approach, giving students the knowledge, communicating the need to take action but leaving them to their individual agency to actually do so, however very few students engaged. Hence, both the Instrumental and Emancipatory approaches can be argued to have not made a difference as students exposed to it did not engage deeply in the conversations.

Vare and Scott (2007) argue that in blending the Instrumental and Emancipatory approaches we are more likely to achieve the core aim of EfS. UK HEIs as the data indicates relied on communication of the affective-experimental type (exhibition photographs) and cognitive analytical type (launch events as well as their numerous tweets), yet as we see this did not result in active engagement of students. Though van der Linden (2014) argues that for communication to be effective alongside the affective-experimental and cognitive analytical type of communication, thesocial- normative type needs to be included. But behavioural sciences continue to prove empirically, that behaviour change programmes that rely solely on communication - weather leading to supportive attitude - without consideration for environmental conditions and constrains (facilitating/ providing the opportunity to take action) tend to fail (Darnton and Horn, 2013), as evidenced in the Emancipatory approach. A gap which the Instrumental approach has the potential to address. As this research shows and is its core focus, Instrumental approach focuses on facilitating actual action by removing barriers (socio-technological), making it easy (specific action with selfies which students are known to be apt at). Though its core weakness according to Emancipatory advocates (Peter and Wals, 2016) is that it is momentary, but behavioural sciences prove the consistent opportunities to actively engagement in the desired action(s) is crucial to normalising new behaviours (Heeren et al., 2016; Kelly and Barker, 2016). The WE? programme though called for critical discussion on social media about the sort of future students want. Students exposed to the Instrumental approach who though they took part amass, which can be linked to the opportunity on site to take part (facilities to take selfies and post join the conversation on social media was available) engage with a prescribed (somewhat automated) way (take selfies and post with a one-line message), thus failed to critical participation in the conversation, which was the crux of the exhibition. However, the two students who were not part of this larger group who were prescribed action, utilising the facilities on site, brought their actual thoughts and thinking to the conversation, resulting in what appears to be some level of critical discussion. Hence, it can be argued that if those exposed to the Emancipatory approach had the same opportunity on site to engage in the conversation, there might have been a higher turnout likely including students that can critically engage. Likewise, if those who were given prescriptive actions were left to use their own thinking abilities they may have engaged more critically in the conversation. Without further research (talking to students about their personal experience) we may not be able to draw conclusion. If the vast empirical evidence in behavioural science can be believed however, then, we can agree that it is a matter of capability and opportunity (removing barriers and making it easy) to enable actual action which draws on the strengths of these two approaches to EfS.

Hence, as findings in preceding Chapter also indicates, if indeed HEIs intend to enable students to change their behaviours for sustainability, it will take collaborative efforts of those within their communities, but this research suggests they are lacking in this area. EfS, particularly with a focus on a blended approach, calls for not only students learning but also action for sustainability, which requires core, co and extracurricular interventions. The move beyond the core curriculum as discussed in Chapter 2.4, requires a culture shift where collaborative working for a whole Institution approach that enables students on their journey towards being active agents of change for sustainability is enabled. This research showed that the WE? EfS programme received active engagement from top management staff (8/61), and Corporate social media profiles (of Environmental/Sustainability units/institutes, some schools and departments) (33/61), and even non-academic staff (14/61), it however shows low academic staff (6/61) participation. Researchers have repeatedly found the lack of time (Reid and Petocz, 2006; Jones et al., 2008) and expertise, perceived incompatibility of EfS to programmes (Jones et al., 2008) and most crucially academic freedom as factors inhibiting and leading to poor academic staff engagement in EfS (Cebrain and Junyent, 2015). Researchers (Cebrain and Junyent, 2015) find, that for HEIs to enable academic staff engagement in EfS, there needs to be a clear vison, strong leadership and support (resources, training, rewarding, infusing EfS in academic processes, research and structures), however the extent to which this is happening HEI wide is not known, but the low level of academic staff (6/61) engagement in this WE? programme compared to the dominant presence of HEIs top management/corporate profiles (41/61) and non-academic staff (14/61), points to persistent low engagement of this group.

This illustrative case study contributes to knowledge by helping to provide a vivid picture around the approaches to EfS and students reaction to them, which have not been done before- of which the findings here, in particular the observed inherent weaknesses of both approaches., it is hoped can be drawn on to reflect on the reported widespread discrepancy between students’ knowledge/attitude and action (UNESCO, 2014).

# **PART IV: Conclusion**

**Chapter 8 Conclusions**

**8.1 Introduction**

Prior to this thesis, little attention had been paid to the impacts and outcomes of HEIs implementing EfS in terms of students’ *action* for sustainability. Indeed, within this relatively small, emerging EfS literature, attention to date has almost exclusively focused on delivering sustainability knowledge within the curriculum and, to a lesser degree, scaling up EfS implementation across/within institutions. At the end of a decade dedicated to encouraging EfS in education (The Decade for Education for Sustainable Development 2005-2014), it was reported that students are generally not engaging in actions for sustainability, and this post DESD thesis has demonstrated that this is still largely the case.

Globally, HEIs (including those in the UK sector which is the main focus of this thesis) have already been criticized for lacking real commitment to EfS, and two perspectives – (1) Emancipatory and (2) Instrumental – dominate the discourses on how EfS implementation should be approached. However, until now, there has been little empirical evidence for this discussion, which is the gap this thesis addresses. Hence, this thesis scrutinised UK HEIs’ commitment to and approaches to EfS, with a focus on outcomes.

Having introduced these matters in Chapter 1, which is based on the findings of the literatures reviewed in Chapter 2, I devised a research methodology in Chapter 3 with which to investigate/examine four aims:

**Aim 1:**Investigate to what extent strategic importance is being explicitly and publicly afforded to Education for Sustainability in HEIs.

*Addressed in Chapter 4*

**Aim 2:** Investigate HEI approaches to EfS and how they relate to the number of students engaged in taking action for sustainability.

*Addressed in Chapter 5*

**Aim 3:** Examine the contextual landscape in which HEIs are implementing EfS, in particular where and why individual actions, by students or EfS staff, are taking place.

*Addressed in Chapter 6*

**Aim 4:** Examine how students respond to the ‘Instrumental and Emancipatory’ approaches to EfS in relation to taking actions for sustainability.

*Addressed in Chapter 7*

The findings which are presented in Chapters 4 to 7 are evaluated next in Section 8.2. In this final chapter, I also revisit the central thesis question (Section 8.3), discuss my contributions to knowledge and implications for HEI policy and practice (Section 8.4). I also provide further reflections and recommendations for further research in this emerging and exciting research field (Section 8.5), with my final thoughts then presented in Section 8.6.

**8.2 Summary of research aims findings**

Investigating the extent to which UK HEIs are actually seeking to be a tool for enabling students’ actions for sustainability, entailed a multidisciplinary literature review which highlighted four aims central to addressing the research question. These aims have been explored over the past four chapters (4-7) and below are the key findings summarised, as per the following structure: Aim 1 in sub-section 8.2.1 (Chapter 4); Aim 2 in sub-section 8.2.2 (Chapter 5); Aim 3 in sub-section 8.2.3 (Chapter 6); and Aim 4 in sub-section 8.2.4 (Chapter 7).

***8.2.2 Summary of findings relating to Chapter Aim 1***

There were 148 government approved UK HEIs across the four administrations (England, Scotland, Wales and Northern Ireland) at the time of this research, and the aim of Chapter 4 was to investigate the extent to which they gave strategic importance explicitly and publicly to EfS. Addressing this aim entailed analysing their publicly available Strategic Document (SDs). Importantly, the document analysis revealed strategic commitment to EfS is very low. I specifically note the following headline findings:

* Though all pillars of sustainability (Economic, Social and Environmental) issues featured greatly in HEIs Strategic Documents, the most frequently mentioned commitment was to an HEI’s environmental aspect (see section 4.3). This is important as HEIs are clearly regarding sustainability as being a purely environmental issue (e.g. regarding climate change and energy, commonly), which is immediately reductive and constraining to the role that sustainability could play within HEIs (in the context of EfS and beyond).
* Low numbers (18%) of HEIs were found to have made EfS a strategic priority, with less (16%) having EfS as a core educational purpose infused in their HEI’s values (see section 4.4).
* HEIs in government administration (Wales) where there is government support for sustainability, tend to engage most with the sustainability agenda, and also have the highest proportion strategically prioritising EfS (see Table 4.2).
* Only a handful of SDs (3%) specify KPIs with which to measure implementation progress were found. I considered, that this may be because these would be in another document rather than they not having them, or it could also mean that EfS is not being operationalised. The following two aims gave further insights on this matter (see sub-suction 4.4.3).

***8.2.3 Summary of findings relating to Chapter Aim 2***

Of the total population of 148 UK HEIs, 11% were identified as actively engaging with EfS, and Chapter 5 focused on those leading/driving its infusion in the curriculum (which may be co, core and extra-curriculum). Apart from those with strategic commitments to EfS, HEIs without strategic commitment to EfS were also found to be engaging with EfS through an overarching sustainability agenda, i.e. it was part of an overall sustainability strategy (covering, for instance, estate and university operations too) rather than a specific EfS strategy. In-depth semi-structured interviews with the EfS leads of 7% of the population provided insights into the reality of the ‘what is happening on the ground’, their aspirations, and the various approaches and challenges in getting students engaged in sustainability actions:

* All HEIs interviewed indicated they are seeking to enable students’ action for sustainability (see section 5.3) and, in most cases were using both emancipatory and instrumental approaches (see section 5.4, Figure 5.1).
* I identified three Education for Sustainability Action (EfSA) models (see section 5.5):
  + *EfSA model I* – assumes knowledge/capacity building will lead to pro-sustainability attitudes and, in turn, pro-sustainability actions. The outcome is often low numbers of active student engagement.
  + *EfSA model II* – assumes knowledge and facilitating pro-sustainability attitudes will enable learners to become (more) engaged in acting sustainability. This often results in more student numbers becoming engaged than EfSA I.
  + *EfSA model III* – assumes knowledge and facilitating pro-sustainability attitudes and action will enable learners to become (more) engaged in acting sustainability. Crucially the new actions/behaviours are sustained, through a collaboratively structured (student and staff) and mutually agreed way. This model results in the highest degree of active student engagement.
* The HEIs making the greatest advances in the number of students actively engaging over time, are those blending emancipatory and instrumental approaches (see section 5.4, sub-section 5.5.2, Figure 5.2). They present sustainability matters to students in a way that is personally/academically/professionally relevant to them (see subsection 5.5.1), going beyond the curriculum using the co and extra curriculum spaces to enable students learning/action, and also engage with the values aspect of EfS (which is fundamental to attitude formation) (see section 5.5). Those who are not infusing values but may be blending approaches generally reported not making advances with students’ active engagement (see sub-section 5.5.2, Figure 5.3). Several reasons for not engaging with values were given including using the Quality Assurance Agency’s (QAA) EfS guideline which has been developed for the sector - while it has knowledge skills/attributes outcome indicators, it does not include values (see sub-section 5.5.2, Table 5.4).

***8.2.4 Summary of findings relating to Chapter Aim 3***

Aim 3 examined the contextual landscape in which HEIs are implementing EfS (Chapter 6). This was based on the same set of EfS leads interviewed in Chapter 6 (regarding Aim 3), but herein the subset of questions specifically explored the leadership and institutional settings/structures that constrain where, why and how individual actions (whether they be students or EfS staff) are taking place. Here, the evidence showed:

* Having EfS as a stated strategic priority was not necessarily a guarantee of strategic support (see section 6.3). HEIs with publicly stated strategic commitment(s) to EfS tend to employ staff with a formal remit leading their EfS programmes, while HEIs without publicly stated strategic commitment(s) tend to rely on staff personally championing EfS or having it as an added (usually peripheral) responsibility to their main role. The work of these latter staff is often inadequately resourced. Commonly, most felt they had insufficient time assigned to EfS and/or inadequate teams to scale up EfS across their institutions.
* Changing leadership and staff turnover, the relative importance of sustainability in relation to other institutional issues/agenda, financial sustainability, weak leadership from government and businesses, and other resource-intensive sector-wide initiatives like the UK’s TEF (Teaching Excellence Framework, 2018) are the internal and external factors highlighted as influencing strategic support for EfS (see section 6.3 and Table 6.2).
* Three distinct contexts where observed within these HEIs (see section 6.4, Figure 6.3):
  + Where *EfS is being normalised in an HEI’s educational purpose* – that is sustainability is normalised in the curriculum infused in educational processes, two routes are observed where academics are either passive or active participants with different outcomes reported. On the one hand, as part of the wider sustainability agenda of the institutions, students are partnered directly, particularly through extra curriculum activities using EfSA III model; this is reported to be resulting in high number of student engagement in sustainability action. On the other hand, there is a focus on academics’ active participation which is driven with policies, incentives, communication, training and guidelines, however EfS is underlined with an Emancipatory approach and EfSA I model which tends to lead to low numbers of active student engagement.
  + Where *EfS is mandatory for academics to engage with* -that is they are required to infuse it in their courses, two routes are also found with different outcomes. In both routes EfS is driven by regulations, policies, trainings and incentives, while one route has HEIs that are using either Instrumental or blended approach with EfSA II model and reporting medium number of active student engagement as the outcome, the other route goes further to drive staff engagement with an ethos of trust, which is reported to facilitate a culture of collaboration and partnership. Students are also encouraged in this later route to argue for the infusion of EfS in their curriculum to their tutors, a blended perspective with EfSA III is utilised and they report high number of student engagement in sustainability action.
  + Where *EfS is non-mandatory*, with communicating and networking as the means for driving staff engagement in EfS implementation efforts. These use blended perspectives but use EfSA I model, they report low numbers of active student engagement.

Hence the key findings to take away is that the context (the extent to which there is strategic support for EfS implementation) and the approach (perspective and model underlying) to curriculum design are both crucial factors in achieving high numbers of students engaging in actions for sustainability.

***8.2.4 Summary of findings relating to Chapter Aim 4***

In an illustrative case study (Whole Earth?) presented in Chapter 7 on students’ (*in)action* for sustainability undermining EfS efforts, whereby the Emancipatory and Instrumental approaches utilised to enable students to take action, were compared to experienced outcomes. The research focused on student responses to efforts to actively engage them in a social media conversation about sustainability and their careers – the sort of future they want, which was to be presented to policy and business leaders to encourage them to take long term decisions in support of sustainability. The key finding is that both the Emancipatory and Instrumental approaches to enabling students’ actions did not achieve the desired outcome of the programme, which is critically important given that EfS approaches implicitly/explicitly support and/or are directly inspired by these two approaches.

I also specifically note that:

* In the UK, more staff (management, academic and administrative) actively participated in the Whole Earth programme than students, despite students being the target audience (see Figure 7.7). Furthermore, management and academic staff responsible for procuring and promoting the exhibition were also more active (e.g. on social media) than academic staff who are directly responsible for students learning (see section 7.4).
* Some HEIs used an Emancipatory approach to EfS, where students were consistently called upon and encouraged to join the sustainability conversation (e.g. through giving students information on twitter), but (as is inherent with the approach) these students were left to their own devices to actively participate (see section 7.4). The consequence was that only a handful of students actually took part in the sustainability action (that is took part in the social media discussions) and when they did, they did not critically engage (e.g they were retweeting promotional messages?) (see section 7.5).
* With the Instrumental approach; students were asked to take prescribed actions requiring a specific skill (e.g. digital literacy) and their participation was facilitated with social (technological) structures. Many students responded, however, they too (as inherent with the approach), did not critically engage in the discussions (see section 7.5).

I suggested that key reasons behind this failure included HEIs commitment to enabling students’ actions and the way EfS curriculum is being designed. As such, this fed into the Aims 1-3 in Chapters 4-6 through their explicit consideration of what HEIs sets EfS up as doing aspirationally, how the individuals leading its implementation set about achieving it, and how this is impacted by the institutional support in place.

**8.3 Revisiting the central thesis question**

The aforementioned Aims only existed to focus my efforts in answering the following central thesis question, under which the whole of my thesis fits:

*To what extent are HEIs actually seeking to be a tool for enabling students’ actions for sustainability?*

As previously mentioned, a critical part of this question’s framing is through its focus on *action* for sustainability, compared with simply awareness-raising and knowledge-deficit approaches to sustainability (which has traditionally been the approach and underlying philosophy of educationalists).

To answer my thesis question somewhat directly: HEIs are engaging very little with an action for sustainability agenda, especially through EfS-led initiatives - as Figure 8.1 Box A shows,

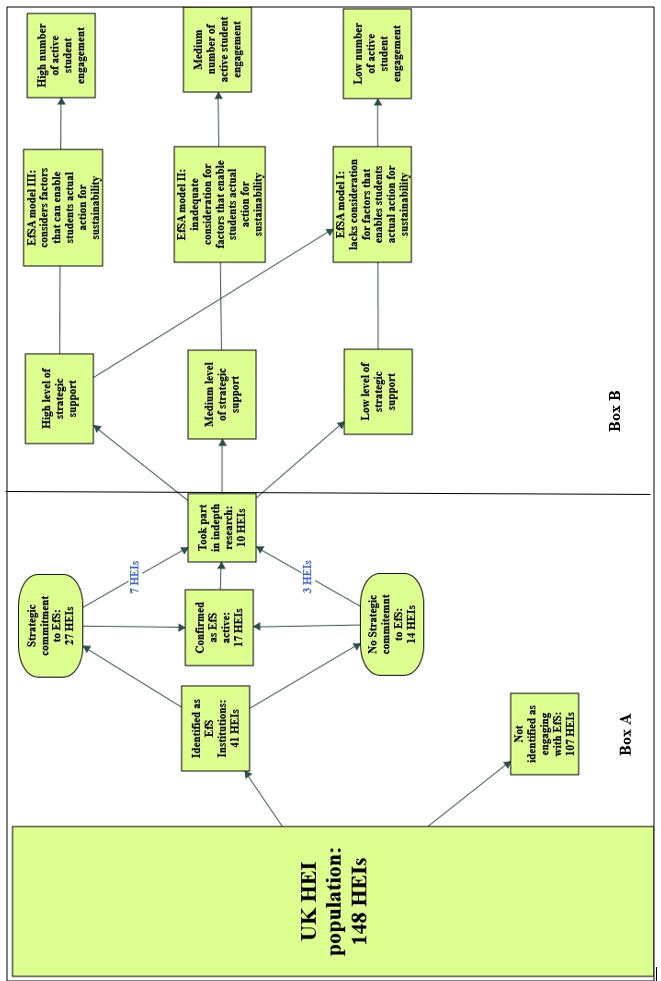


Figure 8.1. How Education for Sustainability features across the UK Higher Education sector

only 11% (17 of 148) are identified as doing this. There is nevertheless a clear range of experiences and approaches through which those who engage are implementing it.

In answering this overarching thesis question and in staying close to this framing, I now discuss the approaches that I have found HEIs to be taking (or not) in using EfS to address sustainability, particularly in the context of action (as also summarised in Figure 8.1). The three key factors that emerged from my thesis’ research relate to: (i) the number of UK HEIs sector wide engaging with the EfS agenda; (ii) the level of strategic support for EfS implementation; and (iii) the approach to EfS curriculum design.

The evidence also indicates only few of these HEIs identified as engaging with the EfS agenda, have in practice a strategic commitment at a level which is commensurate to facilitating the conditions for scaling up EfS to reach all students and ensure they are actively engaged. It is well acknowledged that strategic support for the implementation of EfS e.g. through the mainstreaming of sustainability principles into HEIs structures and practices is important. To progress EfS to a position where it is not being seen simply as an addition to learning (a so-called ‘bolt-on’), and instead is regarded as central to and normalised in the curriculum, with accountability mechanisms (Corcoran and Wals, 2004; Tilbury et al, 2005; Tilbury, 2011; Lee and Schaltegger, 2014), driven by or leading to a pro-sustainability culture (Thomashaw, 2012; Littledyke et al, 2013) takes more. That is EfS also requires commitment from individuals, especially managers. Several authors have commented on the lack of sustainability leadership, including Wright, 2002; Bekessy et al., 2007; Holdsworth et al., 2008; Ryan et al., 2010; Tilbury, 2011; Shephard and Furnari, 2013; Lee and Schaltegger, 2014; UNESCO, 2014; Falkenberg and Babuik, 2014. Although Martin et al (2014) state that where EfS is given strategic priority it often also signals strong commitment and enables EfS implementation across institutions, there is little evidence of this from my research. Here, I find a disconnect between HEIs’ statements that EfS is a strategic priority to them and the implementation of this priority in reality. EfS only flourishes when there is both a strategic commitment to EfS, and this has been actually implemented appropriately (including sufficient resourcing) by e.g. giving an individual responsibility for delivering this strategic aim. Whilst I note this relationship as being important, the aims and scope of this thesis does not lead me to explore the causalities within/across these relationships, i.e. I do not have the data to conclusively say whether it is the leadership of a staff member that ultimately results in a strategic commitment, or other way around – I speculate though that it is most likely an iterative, two-way relationship.

The amount of strategic support (and indeed how widely EfS is scaled up) however does not necessarily bear correlation to the amount of student engagement, the curriculum design also plays a crucial role for the outcome. As Figure 8.1 box B shows, apart from strategic support, the model that underlie EfS curriculum design is a crucial factor for the outcome is evidenced, and it is only a handful of HEIs that were found to be effectively approaching EfS; this group of HEIs report high numbers of student engagement in actions for sustainability. While HEIs are viewed as avoiding ‘values education’ (Sterling, 2012), a number of them are infusing it in their EfS curriculum design. Pedagogies based on an assumption that knowledge will translate to pro-sustainability attitude and then action (central to emancipatory perspective) are experiencing lower numbers of active students’ engagement. Pedagogical approaches which focus on facilitating action (central to the instrumental perspective) make moderate advances with enabling students’ action for sustainability. Most HEIs are blending emancipatory and instruments perspectives, and Vare and Scott (2007) and Sterling (2014) assert that such an approach is most effective. However only a few of the HEIs in this thesis actually achieved high levels of active student engagement, so other factors must also be important. EfS curriculum design features that align with best practice based on behavioural theories and models (values based, active engagement of target actors, initiating and sustaining action), account best for the differences in outcomes. It is the HEIs with blended perspectives, where students EfS journey is co-produced with them – meaning that it is relevant, personal and interesting to them- and their sustainability actions are not only initiated but also sustained, that report higher numbers of student engagement.

In light of this evidence, I concluded that the extent to which UK HEIs are actually seeking to be tools for enabling students’ actions for sustainability remains very limited. For the small number of UK HEIs who are engaging with the EfS agenda (as compared with the sustainability agenda more broadly), they are seeking to enable students’ action for sustainability, not just learning for sustainability, but are limited due to the level of strategic support and the approaches they take to embedding sustainability within their curriculum. That being said, considering the difficulties HEIs have been increasingly facing due to decreased government funds, HEI’s tend to be focused on their long-term financial sustainability and hence give priority to agendas that will facilitate this. While institutions that have committed to EfS are doing so even within this climate.

Having adopted a Critical Realist perspective, it is clear that these conclusions do have relevance beyond the bounds of this thesis (e.g. in other study contexts). As such, I would argue that this thesis is an excellent starting point for more discussion on actions for sustainability. Though, having shunned a positivist viewpoint, I suggest caution in assuming that these findings here have relevance across all university and national/international contexts. I therefore encourage further enquiries across different HEI and wider Higher Education contexts, which is in keeping with my belief that knowledge is extendable and that this thesis was never intended to provide a so-called ‘complete’ view of the problems/solutions at play. Hence, alongside highlighting the contributions to knowledge made here I will also be recommending further studies below in section 8.4 and 8.5 respectively.

**8.4 Contributions**

***For knowledge***

This is the first research to show:

* We are still a long way from infusing EfS across the UK HEI sector with lack of strategic commitment a crucial factor;
* Those who engage with EfS are seeking to enable students’ action for sustainability; however,
* The ways in which they are going about this (their EfS models) are mostly not suited to enable students’ actual actions for sustainability, but instead focus on providing sustainability knowledge or capacity building that tend to lead to conative outcomes.

Other contributions to knowledge that were made during my investigations are:

1. In areas where few have contributed:

* *Conceptualising the problem in a novel way*: through a multidisciplinary literature review of behavioural sciences literature which EfS research relatively rarely pull on, I have drawn on a broad range of behaviour change theories and models (informed by a floral of empirical evidence) to understand the reason for students’ pro-sustainability attitude action discrepancy. Informed by these behaviours change literatures (I being in no way prescriptive), EfS as a behaviour change intervention, has to be outcome focused to be effective - that is enabling students behaviour change for sustainability, which requires shifting the focus to action rather than the current knowledge centred practice.
* *Models of change:* The core components of curriculum design that best enable students’ engagement in sustainability action is not well established in EfS literatures. Here, empirical evidence is provided that shows the inclusion and active involvement of students in the process of their EfS journey (design and delivery), their engagement with values aspect of sustainability including knowledge and skills, initiating and sustaining the new behaviour are the key components of HEI EfS programmes that are effectively enabling students’ engagement in actions for sustainability.

* *Mapping of EfS implementation in relation to outcome:* The conceptual map in Figure 6.3 is unique because it represents an input output process (the institutional context in which EfS is being implemented, the approach (EfSA model) to curriculum design and the outcome in terms of students’ engagement in actions for sustainability). Figure 6.3 shows the routes HEIs are taking to implement EfS within their institutions, detailing the features of institutional contexts that enable/constrain EfS in delivering action for sustainability. It echoes the features that have been raised by earlier studies (Martin et al., 2014), but also highlights other vital factors that result in the different level of staff/students’ engagement. I argue that highlighting the role of these new (and usually overlooked) factors is significant because it points the literature towards further investigations on factors that enable EfS to flourish within Higher Education.

1. Empirical insights that no one else has provided so far are:

* *From self-reported* *to actual empirical observations of students’ actions for sustainability:* As Table 2.3 (which summarises gaps in the literature) shows, the limited amount of previous outcome focused EfS research that relied on students’ self-reported data (which they considered a limitation to their studies). Here students were observed directly, also providing illustrative case of students’ attitude-action gap.
* *The perspective which underlies EfS implementation:* That is, how students respond to the emancipatory, instrumental and blended perspectives, and how these perspectives are driving EfS implementation. This has not been done before or, at least, I have not encountered any research that has dealt with these themes and taken this approach – both through reviewing the literature and through conversations with colleagues in the sector.

***For policy and practice***

An action focused curriculum which is what EfS behaviour change agenda calls for: could have huge implications for the purpose of education and even for the purpose of universities, should the argument here be extended further. Discussion needs to shift away from just embedding EfS within HEIs curriculum to what it actually entails to effectively enable students to be change agents for sustainability, this will then best inform the course design. Due to the focus on knowledge/awareness, there is so much that is yet to be researched in terms of students’ behaviour change and evaluation of EfS outcomes, though so much insight can be drawn from behavioural sciences, as the multidisciplinary literature review which informed this thesis shows (Chapter 2). Human behaviour is complex – there are hundreds of variables which can affect people’s attitudes, motivations and behaviour – it is generally difficult to measure and/or evaluate the impact of behavioural interventions, especially in the chaotic real world. Measurement and evaluation exercises are, nevertheless, important to do; what you do not measure, you just cannot prove or track or meaningfully learn from those improvements. There is no prescriptive way this can be done; in fact, behavioural science is still very much an exploratory field. The research carried out here, provide useful insights for practice, as it reveals those making the most advances with students’ active engagement are:

* Infusing EfS in the curriculum by;
  + Building an ethos of trust within their communities, which facilitates a culture of collaboration and partnership amongst staff/students for scaling up EfS
  + Co-producing EfS outcomes with students. Learners should be encouraged to engage in the process of infusing EfS within their programmes. Leaners should be enabled to co-create their EfS active learning journey, which is best described as a person-centred approach to active learning for sustainability
    - This way they are able to engage with the ideal in a personal and relevant way, which enables their receptivity and sustains them on the journey towards change.
    - Particularly for practitioners who are of the emancipatory view, this way it will be clear if the learner wants to actually engage or not, which will be the basis for facilitating/providing the opportunity for them to take action.
* Monitoring and evaluating outcomes by;
  + Studying students’ behaviour on campus (e.g. carbon reduction; engagement with EfS projects) and beyond (sustainability work in the community), which entails cross departmental collaboration and partnerships (between estates, research, academics/EfS lead and students union)

This research has identified weakening external support for EfS since, but not necessarily linked to the end of DESD, and this is happening despite guideline (QAA, 2014) having been produced (QAA, 2014). In Wales where government policies drive EfS within the HEI sector, engagement with the agenda is high (see Chapter 4). Elsewhere this is lacking. Also sector wide government backed HEI initiatives such as TEF do not at present appear to consider EfS, a signal that EfS is unimportant to student outcomes. It remains uncertain whether calls from students to embed EfS in their learning, e.g. as demonstrated by the long-term NUS studies ((Bone and Agombar, 2011; Drayson et al., 2012; Drayson, et al, 2013; Drayson, 2015; NUS 2016, 2017, 2018), will eventually feed through into TEF. Businesses are predicted to increasingly demand graduates who can contribute to their sustainability agenda and employers’ needs are being considered in TEF. If EfS is to flourish within HEIs, it will require policy makers, businesses and government agencies to support and encourage HEIs and infuse it within students learning. EfS is a behaviour change intervention, if indeed we are to achieve the 2030 Sustainable Development Goals (SDGs, 2015) EfS target (Goal 4, target 7), to produce graduates who live and work in a sustainable way, then we also need to ensure EfS is not dominated by education *about* sustainability, but is value led and truly education which engenders students’ action *for* sustainability.

**8.5 Future research directions**

In consideration of the findings of this research, I recommend some areas for further studies: with particular attention to learning from students, top-down drivers of change and the role of SDGs in shaping frontline EfS agendas

*Bottom up learning from student*s

There appears to be a groundswell of support for sustainability amongst students in general. Higher Education students have consistently indicated they want their institutions of higher learning to do more regarding EfS (Bone and Agombar, 2011; Drayson et al., 2012; Drayson, et al, 2013; Drayson, 2015; NUS 2016, 2017, 2018), in fact future HE students (current school children) have been taking part in walk outs from their classes to call on government to do more regarding sustainability issues (The Guardian, 2019). The findings in Chapter 5 indicates HEIs are aiming to enable students’ actions for Sustainability. What we do not know is what students actually want from education? what role do they see universities (and the education sector) playing in their lives? – education and/or behaviour change?

*Middle out practice*

In terms of the practice side of things – having identified in this thesis that only a few HEIs are using effective approaching to enable students’ actions for sustainability – a few lines of enquiry that I recommend are further explored include: How did the HEIs using effective models arrived at this? Is it through research or their experience (e.g. tried different approaches and then found what works); How to raise awareness amongst HEI EfS practitioners of what constitutes effective outcome focused EfS curriculum?; will rising awareness of the core EfS curriculum features that enable students’ action for sustainability (students as co-creators of the learning journey, initiating and sustaining their actions), lead to its uptake in practice?

Also, the issue of measuring and tracking students’ behaviour change is unresearched, though insights are gained here (findings in Chapter 5) on how HEIs may measure their students’ sustainability actions while they are still studying, but as they graduate how do we track this?. How do we measure behaviour change over a long period of time? Can changes/sustainability actions of students be measured and tracked for instance through alumni surveys? Key questions I will pose are; Does conforming to instrumental instructions on how to behave (e.g. doing recycling) while being a student mean that graduates are more likely to continue and expand their sustainable action in their personal/work lives compared to those who were not exposed to specific sustainability instructions?, How does Instrumentalism transfer between different behaviours? E.g. if a student is taught the best way of recycling, does it mean they will also reduce their energy use?

*Top-down drivers of change*

As noted in Chapter 6, sector wide initiatives like Teaching and Excellence Framework (TEF, 2018) -which is a unique bridge for business and Higher Educational Institutions - were the former informs on their skill needs for the latter to produce such graduates, is currently seen as barriers to EfS implementation. Being that businesses are projected to increase demands for sustainable graduate, students have repeatedly called for their institutions to include EfS in their learning (Bone and Agombar, 2011; Drayson et al., 2012; Drayson, et al, 2013; Drayson, 2015; NUS 2016, 2017, 2018), and government who had earlier showed strong interest and support for EfS is also a key TEF actor, a question here is do they collectively see TEF as a means to encourage HEIs to infuse sustainability across their curriculum? If no, why is this the case? if yes, what are they willing to do to enable this?

HEIs Strategic Documents analysed in Chapter 4 reveal EfS characteristics feature as strategic priorities being incorporated in students learning across HEIs and I wonder why this is not being capitalised on to make case for EfS. As this appears to be a matter of paradigms rather than the need for drastic transformation as others call for (Sterling and Scott, 2008; Shephard, 2008), I believe leadership training should be tailored with this in mind. This raises several questions central to which is: are current leadership training programme designers drawing on what HEI leads already prioritise in terms of their students learning? If management see EfS as driving all core educational goals will this lead to more uptake of the agenda?

Furthermore, though exploring the content of other key sources/websites through which EfS HEIs where identified (Green Gown Awards, Green Academy, Responsible Futures) was not within the scope of Chapter 5’s aim, it would be interesting to explore what perspectives drive these awards/programmes/initiatives and if/how do they shape HEIs EfS curriculum design. For example a web search of the Green Gown Awards (2019) categories directly relating to students ‘Student Engagement and Tomorrows Employees’, shows the emphasis is on students gaining sustainability skills for employability. That is not to say employability skills are not important, but it would appear this specialism focused approach to EfS continues to dominate rather than the reorientation of learners (broadened minds, creative) which is crucial to addressing complex sustainability challenges (Shephard, 2008). What influence(s) does having only such categories have on HEIs aspiring for these awards, in terms of their approaches to EfS curriculum design?.

*Role of SDGs in shaping frontline EfS agendas*

At present, key policy documents are not doing much to aid the advancement of the core aim of EfS, particularly for not emphasising values which is crucial to enabling actions for sustainability. At best one can say they are improperly informed but on the other hand the literatures suggest this could be to avoid being offensive to groups of stakeholders. Chapter 5 shows, the impact key documents like the UK Quality Assurance Agency EfS guideline and the internationally agreed Sustainable Development Goals (SDGs) do have on EfS curriculum design. Particularly, the evidence indicates HEIs utilising the UK QAA EfS guidelines which does not include values as an outcome focus on knowledge and skills/attributes. With values being fundamental to how we feel or think about something (attitude) and the evidence here shows it is the group of HEIs that incorporate the values dimension of EfS in their curriculum that are making progress – that is having medium to high levels of student engagement in sustainability actions (Chapter 5). It hence is important to find out what the EfS visions and assumptions of policy makers particularly at the international level are; clarity is needed on this issue of values. Whichever the case, it is crucial that we gain further understanding on this matter, as it is core to Higher Education making any real advances with EfS.

**8.6 Final thoughts**

Having investigated ‘to what extent Higher Educational Institutions (HEIs) are actually seeking to be tools for enabling students’ actions for sustainability?’, which entailed a multidisciplinary literature review and empirical research, I find very few institutions are engaging with EfS, but those who do are seeking ways to enable students’ action for sustainability, though only a handful are achieving this. The key findings being, that for Higher Education to deliver on the educational imperative of sustainability, there needs to be genuine commitment (by both internal and external stakeholders) to operationalise EfS, and then what ever approach is taken in EfS curriculum design, needs to consider the factors that can enable or hinder students’ action for sustainability (insights can be drawn from behavioural sciences).

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**Appendix 1 – Interview protocol**

1. What is your role in terms of EfS (briefly describe) or how are you involved with EfS in your current institution? How much of your time is spent on EfS activities?
2. How did you get involved, what motivates you?
3. What is your university doing in terms of education for sustainability in both formal and informal spheres?
4. What is your institutions EfS agenda?
5. How are you helping your university achieve its EfS agenda?

The next two questions are quite similar

1. How effective do you think the university’s strategy is in embedding education for sustainability?
2. How successful/effective do you think your specific role in EfS has been?
3. What in your opinion are the current barriers (at institutional and individual level) and how can they be overcome?
4. Levers for success?
5. Do you think EfS activities should be focused more on changing actions, rather than improving understanding? If so, how do you think this could be achieved?
6. Way forward; where do you want to get to in terms of EfS and how?
7. What are your personal goals for EfS in the next three years?
8. How will you achieve them?
9. Will it change how your institution approaches sustainability/EfS
10. Any final comments or anything that you’d like to raise?

**Appendix 2 – Participant information sheet**

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**PARTICIPANT INFORMATION SHEET GUIDANCE**

If you require this document in an alternative format, please bring to the attention of the researcher by emailing [obehi.sule@pgr.anglia.ac.uk](mailto:obehi.sule@pgr.anglia.ac.uk)

**Section A: The Research Project**

1. **Title of project**

Education for Sustainable Development in Higher Educational Institutions

1. **Brief summary of research.**

This study focuses on Education for Sustainable Development in the Higher Education sector. It explores issues vital to translating HEIs ESD efforts to students behaving and acting favourably towards sustainable development.

1. **Purpose of the study**

This is a PhD project being carried out at the Global Sustainability Institute, Anglia Ruskin University, Cambridge.

1. **Name of your Supervisor**

Dr. Alison Greig

1. **Why have I been asked to participate?**

A key issue has been raised by UNESCO and ESD practitioners in the end of the Decade of Education for Sustainable Development (DESD) report (2014). Which is the little or no behaviour changes generally observed amongst students, even amongst those with pro-sustainability attitudes. As an ESD practitioner, you are in an ideal position to give your perception on this issue and what you think could be an effective way to overcome it.

1. **How many people will be asked to participate?**

43 people

1. **What are the likely benefits of taking part?**

The likely benefits would be the possible increase in the understanding of the barriers to educating and fostering actual action for sustainable development. Understanding that could possibly help in tailoring further ESD efforts and decision making in HEIs.

You will receive a summary of the research findings and recommendations.

1. **Can I refuse to take part?**

Yes, you can refuse to take part without giving a reason at any stage.

1. **Has the study got ethical approval?**

Yes, the study has received ethics approval by the Psychology Departmental Research Ethics Panel (DREP) and ratified by the Faculty Research Ethics Panel under the terms of Anglia Ruskin University’s Policy and Code of Practice for the Conduct of Research with Human Participants

1. **What will happen to the results of the study?**

This study’s data will be anonymized, the result will be written as part of a PhD thesis, presented at conferences and published in both domestic and international academic papers, articles or journals.

1. **Contact for further information**

For further information, you can contact the researcher at [Obehi.sule@pgr.anglia.ac.uk](mailto:Obehi.sule@pgr.anglia.ac.uk) and the research supervisor at [Alison.greig@anglia.ac.uk](mailto:Alison.greig@anglia.ac.uk)

**Section B: Your Participation in the Research Project**

1. **What will I be asked to do?**

If you agree to participate, please fill out and sign the attached Participant Consent form prior to the interview. The researcher will be in touch to arrange a mutually convenient time and location for a one-off interview. The interview would take approximately 30 minutes of your time and all arrangements for the interview will be organized by the researcher. During the interview (which is semi structured), the researcher will be seeking your opinion/perception on the barriers to Education and Action for Sustainable Development as well as any ideas you may have on how they could possibly be overcome.

1. **Will my participation in the study be kept confidential?**

The interview will be audio recorded and transcribed and both will be stored in a password protected computer. All participants’ personal data will be anonymised as participants will be assigned a number code to help ensure that personal identifiers are not included at any stage (during the interview, transcription, analysis and write up of findings). Meaning, only anonymised data will be accessible even by the research supervisors.

Every attempt will be made to ensure anonymity, however, the use of participants direct quotes may increase the likelihood that participants could be identified.

1. **Will I be reimbursed travel expenses?**

There is no travelling required to participate in this study.

1. **Are there any possible disadvantages or risks to taking part?**

There are no disadvantages and little or no risks involved in taking part in this research. The only risk may be the risk of identity exposure, but the researcher will ensure your personal information (including your name, your job title and institution name) is not recorded.

Agreement to participate in this study does not affect your legal rights.

1. **Whether I can withdraw at any time, and how**.

You can withdraw from the study at any time and without giving a reason, by signing the withdrawal form which is part of the consent form attached and return to the researcher at [Obehi.sule@pgr.anglia.ac.uk](mailto:Obehi.sule@pgr.anglia.ac.uk)

During the interview, you do not have to answer any questions you do not wish to. If you decide to withdraw from the study, and are also not happy for your anonymised data to be included in the research, you can request for it to be removed from the study on or before 12th of December 2017.

1. **Whether there are any special precautions you must take before, during or after taking part in the study.**

None.

1. **What will happen to any information/data that are collected from you?**

All data will be securely stored in a password protected computer. All data will not have personal identifiable information (recorded interviews will not include participants’ personal information) rather participants assigned code number.

On completion of the study you will be provided with a pdf summary of research findings.

1. **Contact details for complaints.**

If you have any complaints about the study, please contact the research supervisor Dr. Alison Greig at [Alison.greig@anglia.ac.uk](mailto:Alison.greig@anglia.ac.uk). Anglia Ruskin University’s complaints procedure can also be requested from;

Email address: [complaints@anglia.ac.uk](mailto:complaints@anglia.ac.uk)

Postal address: Office of the Secretary and Clerk, Anglia Ruskin University, Bishop Hall Lane, Chelmsford, Essex, CM1 1SQ.

PARTICIPANTS SHOULD BE GIVEN A COPY OF THIS TO KEEP,

TOGETHER WITH A COPY OF THE CONSENT FORM.

**Appendix 3 – Background/pre-interview questions**

1. How long have you been an EfS practitioner or been involved in EfS activities in general?
2. What is your main area of specialism and academic background?
3. How long have you been working at your current institution?
4. How long have you been involved/handled this EfS role at your current institution?
5. Are you the main person responsible for EfS activities?
6. Do you work alone or as part of a team?
7. Do you work full time or part time?

**Appendix 4 – Participant consent form**

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**PARTICIPANT CONSENT FORM**

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If you require this document in an alternative format, please bring to the attention of the researcher by emailing [obehi.sule@pgr.anglia.ac.uk](mailto:obehi.sule@pgr.anglia.ac.uk)

**NAME OF PARTICIPANT: ……………………………………………**

Title of the project: Education for Sustainable Development in Higher Educational Institutions

Main investigator and contact details: Obehi Frances Sule [Obehi.sule@pgr.anglia.ac.uk](mailto:Obehi.sule@pgr.anglia.ac.uk)

Members of the research team: Obehi Frances Sule, Dr. Alison Grieg and Dr. Chris Fould

1. I agree to take part in the above research. I have read the Participant Information Sheet the study. I understand what my role will be in this research, and all my questions have been answered to my satisfaction.

2. I understand that I am free to withdraw from the research at any time, without giving a reason.

3. I am free to ask any questions at any time before and during the study.

4 I understand what will happen to the data collected from me for the research.

5. I have been provided with a copy of this form and the Participant Information Sheet.

6. I understand that quotes from me will be used in the dissemination of the research

7. I understand that the interview will be recorded

Data Protection: I agree to the University[[1]](#footnote-2) processing personal data which I have supplied. I agree to the processing of such data for any purposes connected with the Research Project as outlined to me\*

Name of participant (print)…………………………Signed………………..….Date………………

Name of person

witnessing consent (print)………………………….Signed………………….. Date………………

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**I WISH TO WITHDRAW FROM THIS STUDY.**

If you wish to withdraw from the research, please speak to the researcher or email them at ([Obehi.sule@pgr.anglia.ac.uk](mailto:Obehi.sule@anglia.ac.uk)) stating the title of the research.

You do not have to give a reason for why you would like to withdraw.

Please let the researcher know whether you are/are not happy for them to use any data from you collected to date in the write up and dissemination of the research.

Date 6.6.16

V1.1

**Appendix 5 – Whole earth? social media analysis: data spreadsheet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Respondents | Gender | Profession, Organisation | Location | Country | Social Media Site |
| Respondent 1 | Female | Journalist and author | Stockholm and Bohuslän | Sweden | Twitter |
| Respondent 2 | Female | Sustainability professional | Stockholm and Bohuslän | Sweden | Twitter |
| Respondent 3 | Male | Professor, Senior Lecturer, Lecturer | Leeds | United Kingdom | Twitter |
| Respondent 4 | organisation | Higher Educational Institution | Bristol | United Kingdom | Twitter |
| Respondent 5 | organisation | Higher Educational Institution | Bristol | United Kingdom | Twitter |
| Respondent 6 | organisation | Higher Educational Institution | Canterbury, Kent | United Kingdom | Twitter |
| Respondent 7 | female | Sustainability Professional | Canterbury, Kent | United Kingdom | Twitter |
| Respondent 8 | organisation | Higher Educational Institution | Canterbury, Kent | United Kingdom | Twitter |
| Respondent 9 | organisation | Spiritual | unknown | unknown | Twitter |
| Respondent 10 | organisation | Higher Educational Institution | Cambridge | United Kingdom | Twitter |
| Respondent 11 | organisation | Higher Educational Institution | Bristol | United Kingdom | Twitter |
| Respondent 12 | Male | Unknown | unknown | unknown | Twitter |
| Respondent 13 | Male | Student | Stockholm and Bohuslän | Sweden | Twitter |
| Respondent 14 | organisation | Higher Educational Institution | Bristol | United Kingdom | Twitter |
| Respondent 15 | Female | HEI - Head of Institution, School, Department | Bristol | United Kingdom | Twitter |
| Respondent 16 | Male | Professor, Senior Lecturer, Lecturer | Bristol | United Kingdom | Twitter |
| Respondent 17 | Female | Business, Project Manager | Exeter | United Kingdom | Twitter |
| Respondent 18 | Female | Student | Bristol | United Kingdom | Twitter |
| Respondent 19 | Male | Social media specialist | Metropolitan area, New York | United States | Twitter |
| Respondent 20 | Male | Student | Bristol | United Kingdom | Twitter |
| Respondent 21 | Female | Designer & Photographer | Cambridge | United Kingdom | Twitter |
| Respondent 22 | Female | Unknown | unknown | Sweden | Twitter |
| Respondent 23 | Female | Architect | Stockholm | Sweden | Twitter |
| Respondent 24 | Male | Member of the public | Cambridge | United Kingdom | Twitter |
| Respondent 25 | organisation | Higher Educational Institution | Loughborough | United Kingdom | Twitter |
| Respondent 26 | organisation | Higher Educational Institution | Loughborough | United Kingdom | Twitter |
| Respondent 27 | Male | Student | Loughborough | United Kingdom | Twitter |
| Respondent 28 | Female | Pro Vice Chancellor | Loughborough | United Kingdom | Twitter |
| Respondent 29 | organisation | Finance & Marketing | unknown | United Kingdom | Twitter |
| Respondent 30 | organisation | Social media | Leicestershire | United Kingdom | Twitter |
| Respondent 31 | Female | Unknown | unknown | unknown | Twitter |
| Respondent 32 | Female | Unknown | unknown | unknown | Twitter |
| Respondent 33 | organisation | Sustainability | Loughborough | United Kingdom | Twitter |
| Respondent 34 | Male | Professor, Senior Lecturer,Lecturer | Loughborough | United Kingdom | Twitter |
| Respondent 35 | Female | Student | Loughborough | United Kingdom | Twitter |
| Respondent 36 | Female | Communications and Engagement Officer, Manager | Loughborough | United Kingdom | Twitter |
| Respondent 37 | organisation | Higher Educational Institution | Loughborough | united kingdom | Twitter |
| Respondent 38 | organisation | Recruitment | London | United Kingdom | Twitter |
| Respondent 39 | organisation | Sustainability | unknown | united kingdom | Twitter |
| Respondent 40 | organisation | Publishing & Printing | London | united kingdom | Twitter |
| Respondent 41 | Female | Unknown | unknown | unknown | Twitter |
| Respondent 42 | Female | Student | Loughborough | United Kingdom | Twitter |
| Respondent 43 | Male | Student | unknown | United Kingdom | Twitter |
| Respondent 44 | organisation | Higher Educational Institution | Loughborough | United Kingdom | Twitter |
| Respondent 45 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 46 | organisation | Higher Educational Institution | Cambridge | United Kingdom | Twitter |
| Respondent 47 | Female | Communications and Engagement officer, Manager | Cambridge | United Kingdom | Twitter |
| Respondent 48 | organisation | Higher Educational Institution | Cambridge | United Kingdom | Twitter |
| Respondent 49 | organisation | Higher Educational Institution | Cambridge | United Kingdom | Twitter |
| Respondent 50 | male | HEI - Head of Institution, School, Department | Cambridge | United Kingdom | Twitter |
| Respondent 51 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 52 | Male | Researcher | London | United Kingdom | Twitter |
| Respondent 53 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 54 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 55 | Female | sustainability professional | unknown | unknown | Twitter |
| Respondent 56 | Female | Communications and Engagement officer, Manager | London | United Kingdom | Twitter |
| Respondent 57 | Male | Professor, Senior Lecturer,Lecturer | London | United Kingdom | Twitter |
| Respondent 58 | Female | Teacher | London | United Kingdom | Twitter |
| Respondent 59 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 60 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 61 | Female | HEI - Head of Institution, School, Department | London | United Kingdom | Twitter |
| Respondent 62 | Female | Student | London | United Kingdom | Twitter |
| Respondent 63 | male | Politician | Cambridge | United Kingdom | Twitter |
| Respondent 64 | Male | Professor, Senior Lecturer, Lecturer | surrey | United Kingdom | Twitter |
| Respondent 65 | organisation | Higher Educational Institution | surrey | United Kingdom | Twitter |
| Respondent 66 | Male | Researcher | Cambridge | United Kingdom | Twitter |
| Respondent 67 | organisation | Network | Peterborough | United Kingdom | Twitter |
| Respondent 68 | Male | Professor, Senior Lecturer, Lecturer | Sydney | Australia | Twitter |
| Respondent 69 | Male | Administrator | London | United Kingdom | Twitter |
| Respondent 70 | Female | HEI - Head of Institution, School, Department | Cambridge | United Kingdom | Twitter |
| Respondent 71 | Female | Environmental Officer | Norwich | United Kingdom | Twitter |
| Respondent 72 | Female | Sustainability professional | Umea | Sweden | Twitter |
| Respondent 73 | Female | Unknown | unknown | unknown | Twitter |
| Respondent 74 | Male | Sustainability | London | United Kingdom | Twitter |
| Respondent 75 | Female | Sustainability professional | Umea | Sweden | Twitter |
| Respondent 76 | Female | Unknown | unknown | unknown | Twitter |
| Respondent 77 | organisation | Higher Educational Institution | Cambridge | united kingdom | Twitter |
| Respondent 78 | Female | Professor, Senior Lecturer, Lecturer | Cambridge | united kingdom | Twitter |
| Respondent 79 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 80 | organisation | Energy | unknown | United Kingdom | Twitter |
| Respondent 81 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 82 | Female | Entrepreneur | Umea | Sweden | Twitter |
| Respondent 83 | male | Producer | London | United Kingdom | Twitter |
| Respondent 84 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 85 | Unknown | Unknown | unknown | United Kingdom | Twitter |
| Respondent 86 | male | Student | Surrey | United Kingdom | Twitter |
| Respondent 87 | Female | Recent graduate | London | United Kingdom | Twitter |
| Respondent 88 | Female | Environmental Officer | London | United Kingdom | Twitter |
| Respondent 89 | Female | Student | Cambridge | united kingdom | Twitter |
| Respondent 90 | organisation | Sustainability organisation | Oakham | united kingdom | Twitter |
| Respondent 91 | organisation | Recruitment | unknown | unknown | Twitter |
| Respondent 92 | male | Communications and Engagement officer, Manager | Bristol | United Kingdom | Twitter |
| Respondent 93 | Female | Student | unknown | unknown | Twitter |
| Respondent 94 | Female | Designer & Photographer | Bristol | United Kingdom | Twitter |
| Respondent 95 | organisation | Energy | London | United Kingdom | Twitter |
| Respondent 96 | organisation | Network | Gloucestershire | United Kingdom | Twitter |
| Respondent 97 | organisation | Design & Photography | Minneapolis, NY | United States | Twitter |
| Respondent 98 | male | Professor, Senior Lecturer, Lecturer | London | United Kingdom | Twitter |
| Respondent 99 | male | Vice provost | London | United Kingdom | Twitter |
| Respondent 100 | male | Pro Vice Chancellor | Cambridge | United Kingdom | Twitter |
| Respondent 101 | organisation | Publishing & Printing | Cambridge | United kingdom | Twitter |
| Respondent 102 | organisation | Higher Educational Institution | Cambridge | United kingdom | Twitter |
| Respondent 103 | organisation | Advertising | Cambridge | United Kingdom | Twitter |
| Respondent 104 | Male | sustainability professional | Cambridge | United Kingdom | Twitter |
| Respondent 105 | organisation | Business centre | San Francisco | United States | Twitter |
| Respondent 106 | organisation | Social media | Cambridge | United Kingdom | Twitter |
| Respondent 107 | organisation | Conservation | Cambridge | United Kingdom | Twitter |
| Respondent 108 | Female | Teacher | Paris | France | Twitter |
| Respondent 109 | Male | Politician | Islamabad | Pakistan | Twitter |
| Respondent 110 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 111 | Female | Psychologist | unknown | unknown | Twitter |
| Respondent 112 | Male | sustainability professional | London | United Kingdom | Twitter |
| Respondent 113 | male | Student | London | United Kingdom | Twitter |
| Respondent 114 | organisation | Network | London | United Kingdom | Twitter |
| Respondent 115 | Male | Assessor | Berkshire | United Kingdom | Twitter |
| Respondent 116 | organisation | Leadership development | Calgary | Canada | Twitter |
| Respondent 117 | organisation | Education Centre | Brighton | United Kingdom | Twitter |
| Respondent 118 | organisation | Illustration | unknown | unknown | Twitter |
| Respondent 119 | male | Teacher | London | United Kingdom | Twitter |
| Respondent 120 | Male | Professor, Senior Lecturer, Lecturer | London | United Kingdom | Twitter |
| Respondent 121 | Male | Librarian | London | United Kingdom | Twitter |
| Respondent 122 | organisation | Recruitment | Washington, DC | United States | Twitter |
| Respondent 123 | organisation | Sustainability org | London | United Kingdom | Twitter |
| Respondent 124 | Female | Unknown | Nairobi | Kenya | Twitter |
| Respondent 125 | Male | Researcher | London | United Kingdom | Twitter |
| Respondent 126 | male | sustainability professional | London | United Kingdom | Twitter |
| Respondent 127 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 128 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 129 | Male | Sustainability professional | London | United Kingdom | Twitter |
| Respondent 130 | Female | Recent graduate | York | United Kingdom | Twitter |
| Respondent 131 | Male | Engineer | unknown | unknown | Twitter |
| Respondent 132 | Female | Student | London | United Kingdom | Twitter |
| Respondent 133 | Female | Student | Brighton | United Kingdom | Twitter |
| Respondent 134 | female | Writer | London | United Kingdom | Twitter |
| Respondent 135 | Male | Student | Bogotá | Colombia | Twitter |
| Respondent 136 | Female | Student | London | United Kingdom | Twitter |
| Respondent 137 | Male | Member of the public | London | United Kingdom | Twitter |
| Respondent 138 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 139 | organisation | Education Centre | London | United Kingdom | Twitter |
| Respondent 140 | Male | Researcher | London | United Kingdom | Twitter |
| Respondent 141 | Male | Chemist | Twickenham | United Kingdom | Twitter |
| Respondent 142 | Male | Chemist | London | United Kingdom | Twitter |
| Respondent 143 | organisation | Design & Photography | London | United Kingdom | Twitter |
| Respondent 144 | organisation | Photography organisation | London | United Kingdom | Twitter |
| Respondent 145 | organisation | Higher Educational Institution | London | United Kingdom | Twitter |
| Respondent 146 | male | Member of the public | unknown | unknown | Twitter |
| Respondent 147 | organisation | Economic development | Peterborough | United Kingdom | Twitter |
| Respondent 148 | organisation | Social media | Cambridge | United Kingdom | Twitter |
| Respondent 149 | organisation | Network | London | United Kingdom | Twitter |
| Respondent 150 | Male | HEI - Head of Institution, School, Department | London | unknown | Twitter |
| Respondent 151 | Female | Business, Project Manager | Leeds | United Kingdom | You Tube |
| Respondent 152 | organisation | Higher Educational Institution | Umea | Sweden | Instagram |
| Respondent 153 | unknown | unknown | Umea | Sweden | Instagram |
| Respondent 154 | male | unknown | Umea | Sweden | Instagram |
| Respondent 155 | organisation | Engineering | Umea | Sweden | Instagram |
| Respondent 156 | organisation | Sustainability | Cambridge | United Kingdom | Instagram |
| Respondent 157 | female | unknown | London | United Kingdom | Instagram |
| Respondent 158 | female | unknown | Stockholm | sweden | Instagram |
| Respondent 159 | female | unknown | London | United Kingdom | Instagram |
| Respondent 160 | male | unknown | London | United Kingdom | Instagram |
| Respondent 161 | organisation | Higher Eduactional Institution | London | United Kingdom | Instagram |
| Respondent 162 | female | unknown | Umea | sweden | Instagram |
| Respondent 163 | organisation | Higher Eduactional Institution | Umea | sweden | Instagram |
| Respondent 164 | Male | Student | Umea | sweden | Instagram |
| Respondent 165 | Female | Student | Umea | sweden | Instagram |
| Respondent 166 | Male | Student | Umea | sweden | Instagram |
| Respondent 167 | Male | Student | Umea | sweden | Instagram |
| Respondent 168 | Male | Student | Umea | sweden | Instagram |
| Respondent 169 | Female | Student | Umea | sweden | Instagram |
| Respondent 170 | Male | Student | Umea | sweden | Instagram |
| Respondent 171 | Female | Student | Umea | sweden | Instagram |
| Respondent 172 | Female | Student | Umea | sweden | Instagram |
| Respondent 173 | Male | Student | Umea | sweden | Instagram |
| Respondent 174 | Male | Student | Umea | sweden | Instagram |
| Respondent 175 | Female | Student | Umea | sweden | Instagram |
| Respondent 176 | Female | Student | Umea | sweden | Instagram |
| Respondent 177 | Female | Student | Umea | sweden | Instagram |
| Respondent 178 | Female | Student | Umea | sweden | Instagram |
| Respondent 179 | Male | Student | Umea | sweden | Instagram |
| Respondent 180 | Female | Student | Umea | sweden | Instagram |
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| Respondent 182 | Female | Student | Umea | sweden | Instagram |
| Respondent 183 | Female | Student | Umea | sweden | Instagram |
| Respondent 184 | Male | Student | Umea | sweden | Instagram |
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| Respondent 186 | Male | Student | Umea | sweden | Instagram |
| Respondent 187 | Male | Student | Umea | sweden | Instagram |
| Respondent 188 | Male | Student | Umea | sweden | Instagram |
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| Respondent 190 | Female | Student | Umea | sweden | Instagram |
| Respondent 191 | Male | Student | Umea | sweden | Instagram |
| Respondent 192 | Female | Student | Umea | sweden | Instagram |
| Respondent 193 | Male | Student | Umea | sweden | Instagram |
| Respondent 194 | Female | Student | Umea | sweden | Instagram |
| Respondent 195 | Female | Student | Umea | sweden | Instagram |
| Respondent 196 | Male | Student | Umea | sweden | Instagram |
| Respondent 197 | Male | Student | Umea | sweden | Instagram |
| Respondent 198 | Male | Student | Umea | sweden | Instagram |
| Respondent 199 | Male | Student | Umea | sweden | Instagram |
| Respondent 200 | Female | Student | Umea | sweden | Instagram |
| Respondent 201 | Female | Student | Umea | sweden | Instagram |
| Respondent 202 | Female | Student | Umea | sweden | Instagram |
| Respondent 203 | Female | Student | Umea | sweden | Instagram |
| Respondent 204 | Female | Student | Umea | sweden | Instagram |
| Respondent 205 | Female | Student | Umea | sweden | Instagram |
| Respondent 206 | Female | Student | Umea | sweden | Instagram |
| Respondent 207 | Female | Student | Umea | sweden | Instagram |
| Respondent 208 | Female | Student | Umea | sweden | Instagram |
| Respondent 209 | Male | Student | Umea | sweden | Instagram |
| Respondent 210 | Male | Student | Umea | sweden | Instagram |
| Respondent 211 | Female | Student | Umea | sweden | Instagram |
| Respondent 212 | Female | Student | Umea | sweden | Instagram |
| Respondent 213 | Male | Student | Umea | sweden | Instagram |
| Respondent 214 | Male | Student | Umea | sweden | Instagram |
| Respondent 215 | Male | Student | Umea | sweden | Instagram |
| Respondent 216 | Female | Student | Umea | sweden | Instagram |
| Respondent 217 | Female | Student | Umea | sweden | Instagram |
| Respondent 218 | Female | Student | Umea | sweden | Instagram |
| Respondent 219 | Female | Student | Umea | sweden | Instagram |
| Respondent 220 | Female | Student | Umea | sweden | Instagram |
| Respondent 221 | Female | Student | Umea | sweden | Instagram |
| Respondent 222 | Female | Student | Umea | sweden | Instagram |
| Respondent 223 | Female | Student | Umea | sweden | Instagram |
| Respondent 224 | Male | Student | Umea | sweden | Instagram |
| Respondent 225 | Male | Student | Umea | sweden | Instagram |
| Respondent 226 | Male | Student | Umea | sweden | Instagram |
| Respondent 227 | Male | Student | Umea | sweden | Instagram |
| Respondent 228 | Female | Student | Umea | sweden | Instagram |
| Respondent 229 | Male | Student | Umea | sweden | Instagram |
| Respondent 230 | Female | Student | Umea | sweden | Instagram |
| Respondent 231 | Male | Student | Umea | sweden | Instagram |
| Respondent 232 | Male | Student | Umea | sweden | Instagram |
| Respondent 233 | Female | Student | Umea | sweden | Instagram |
| Respondent 234 | Female | Student | Umea | sweden | Instagram |
| Respondent 235 | Female | Student | Umea | sweden | Instagram |
| Respondent 236 | Female | Student | Umea | sweden | Instagram |
| Respondent 237 | Male | Student | Umea | sweden | Instagram |
| Respondent 238 | Female | Student | Umea | sweden | Instagram |
| Respondent 239 | Female | Student | Umea | sweden | Instagram |
| Respondent 240 | Female | Student | Umea | sweden | Instagram |
| Respondent 241 | Female | Student | Umea | sweden | Instagram |
| Respondent 242 | Female | Student | Umea | sweden | Instagram |
| Respondent 243 | Female | Student | Umea | sweden | Instagram |
| Respondent 244 | Female | Student | Umea | sweden | Instagram |
| Respondent 245 | Male | Student | Umea | sweden | Instagram |
| Respondent 246 | Female | Student | Umea | sweden | Instagram |
| Respondent 247 | Male | Student | Umea | sweden | Instagram |
| Respondent 248 | Female | Student | Umea | sweden | Instagram |
| Respondent 249 | Male | Student | Umea | sweden | Instagram |
| Respondent 250 | Male | Student | Umea | sweden | Instagram |
| Respondent 251 | Female | Student | Umea | sweden | Instagram |
| Respondent 252 | Female | Student | Umea | sweden | Instagram |
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| Respondent 980 | unknown | unknown | unknown | unknown | Instagram |
| Respondent 981 | unknown | unknown | unknown | unknown | Instagram |
| Respondent 982 | unknown | unknown | unknown | unknown | Instagram |

**Appendix 6 – Strategic Document analysis: data spreadsheet**

Beee

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Location | University | Learner centred | Formative Education /Transformative learning | Multidisciplinary/interdisciplinary /transdisciplinary | Active participatory/ Interactive/ experiential learning | Collaborative learning | Sustainability literacy | Educated for the future | Local culture/  language |
| 1 | Scotland | Abertay University |  |  |  |  |  |  |  |  |
| 2 | Wales | Aberystwyth University |  |  |  |  |  |  |  |  |
| 3 | England | Anglia Ruskin University |  |  |  |  |  |  |  |  |
| 4 | England | Aston University, Birmingham |  |  |  |  |  |  |  |  |
| 5 | Wales | Bangor University |  |  |  |  |  |  |  | 1 |
| 6 | England | Bath Spa University |  |  |  |  |  |  |  |  |
| 7 | England | Birmingham City University |  |  |  |  |  |  |  |  |
| 8 | England | Bishop Grosseteste University |  |  |  |  |  |  |  |  |
| 9 | England | Bournemouth University | 1 |  |  |  |  |  |  |  |
| 10 | England | Brunel University |  |  |  |  |  |  |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  |  | 1 |  |  |  |  |  |
| 12 | England | Canterbury Christ Church University |  |  |  |  |  |  |  |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) |  |  |  |  |  |  |  |  |
| 14 | Wales | Cardiff University | 1 |  |  |  |  |  |  |  |
| 15 | England | City University London |  |  |  |  |  |  |  |  |
| 16 | England | Coventry University |  |  |  |  |  |  |  |  |
| 17 | England | Cranfield University |  |  |  |  |  |  |  |  |
| 18 | England | De Montfort University, Leicester |  |  |  |  |  |  |  |  |
| 19 | England | Durham University |  |  |  |  |  |  |  |  |
| 20 | England | Edge Hill University |  |  |  |  |  |  | 1 |  |
| 21 | Scotland | Edinburgh Napier University | 1 |  | 1 |  |  |  |  |  |
| 22 | England | Falmouth University |  |  |  |  |  |  |  |  |
| 23 | Scotland | Glasgow Caledonian University |  |  |  |  |  |  |  |  |
| 24 | Wales | Glyndŵr University | 1 |  | 1 | 1 |  |  |  | 1 |
| 25 | England | Goldsmiths University of London |  |  | 1 |  | 1 |  |  |  |
| 26 | England | Harper Adams University |  |  |  |  |  |  |  |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London |  |  | 1 | 1 | 1 |  |  |  |
| 29 | England | Keele University | 1 |  | 1 |  |  |  |  | 1 |
| 30 | England | King's College London |  |  |  |  |  |  |  |  |
| 31 | England | Lancaster University |  |  |  |  |  |  |  |  |
| 32 | England | Leeds Metropolitan University |  |  |  | 1 |  |  |  |  |
| 33 | England | Leeds Trinity University |  |  | 1 | 1 |  |  |  |  |
| 34 | England | Liverpool Hope University | 1 |  |  |  |  | 1 |  |  |
| 35 | England | Liverpool John Moores University |  |  |  |  |  |  |  |  |
| 36 | England | London Metropolitan University |  |  |  |  |  |  |  |  |
| 37 | England | London School of Economics and Political Science (LSE) |  |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine |  |  |  |  |  |  |  |  |
| 39 | England | London South Bank University | 1 |  |  |  |  |  |  |  |
| 40 | England | Loughborough University |  |  |  |  |  |  | 1 |  |
| 41 | England | Manchester Metropolitan University | 1 |  | 1 |  |  | 1 |  |  |
| 42 | England | Middlesex University, London |  |  |  |  |  |  |  |  |
| 43 | England | Newman University |  | 1 |  |  | 1 |  |  |  |
| 44 | England | Northumbria University |  |  |  |  |  |  |  |  |
| 45 | England | Norwich University of the Arts |  |  |  |  |  |  |  |  |
| 46 | England | Nottingham Trent University |  |  | 1 | 1 |  | 1 |  |  |
| 47 | England | University of Oxford | 1 |  |  |  |  |  |  |  |
| 48 | Scotland | Queen Margaret University, Edinburgh |  |  |  |  |  |  |  |  |
| 49 | England | Queen Mary, University of London |  |  |  |  |  | 1 |  |  |
| 50 | Northern Ireland | Queen's University Belfast |  |  |  |  |  |  |  |  |
| 51 | England | Roehampton University, London |  |  |  |  |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London |  |  | 1 |  |  |  |  |  |
| 55 | England | Royal College of Music |  | 1 |  | 1 |  |  |  |  |
| 56 | England | Royal Holloway, University of London |  |  |  | 1 |  |  |  |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University |  |  |  |  |  |  |  |  |
| 59 | England | Southampton Solent University |  |  |  |  |  |  |  |  |
| 60 | England | St George's, University of London |  |  | 1 |  |  |  |  |  |
| 61 | England | St Mary's University, Twickenham London |  |  |  |  |  |  |  |  |
| 62 | England | Staffordshire University |  |  |  |  |  |  | 1 |  |
| 63 | Northern Ireland | Stranmillis University College | 1 |  |  | 1 |  |  |  |  |
| 64 | Wales | Swansea University |  |  |  |  |  |  |  |  |
| 65 | England | Teesside University |  |  |  |  |  |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  |  |  |  |  |
| 67 | England | The Open University |  |  |  |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  |  |  |  |  |  |  |  |
| 69 | England | University College Birmingham |  |  |  |  |  |  |  |  |
| 70 | Scotland | University of Aberdeen |  |  |  |  |  |  |  |  |
| 71 | England | University of Bath |  |  |  |  |  |  |  |  |
| 72 | England | University of Bedfordshire |  |  |  | 1 | 1 |  |  |  |
| 73 | England | University of Birmingham |  |  |  |  |  |  |  |  |
| 74 | England | University of Bolton |  |  |  |  |  |  |  |  |
| 75 | England | University of Bradford |  |  |  |  |  |  |  |  |
| 76 | England | University of Brighton |  | 1 |  |  |  |  |  |  |
| 77 | England | University of Bristol |  |  |  | 1 | 1 | 1 |  |  |
| 78 | England | University of Central Lancashire, Preston and Burnley |  |  |  |  |  |  |  |  |
| 79 | England | University of Chester |  |  |  |  |  |  |  |  |
| 80 | England | University of Chichester |  |  |  |  |  |  |  |  |
| 81 | England | University of Cumbria |  |  |  |  |  |  |  |  |
| 82 | England | University of Derby |  |  |  |  |  |  |  |  |
| 83 | Scotland | University of Dundee |  |  |  |  |  |  |  |  |
| 84 | England | University of East Anglia |  |  |  |  |  |  |  |  |
| 85 | England | University of East London |  |  |  | 1 |  | 1 |  |  |
| 86 | Scotland | University of Edinburgh |  |  |  |  |  |  |  |  |
| 87 | England | University of Essex |  | 1 |  |  |  |  |  |  |
| 88 | England | University of Exeter |  |  |  |  |  |  |  |  |
| 89 | Scotland | University of Glasgow |  |  |  |  |  |  |  |  |
| 90 | England | University of Gloucestershire |  |  |  | 1 | 1 | 1 | 1 |  |
| 91 | England | University of Greenwich |  |  |  |  |  |  |  |  |
| 92 | England | University of Hertfordshire |  |  |  |  |  |  |  |  |
| 93 | England | University of Hull |  | 1 | 1 |  |  |  |  |  |
| 94 | England | University of Kent |  |  |  |  |  |  |  |  |
| 95 | England | University of Leeds |  |  |  |  |  |  | 1 |  |
| 96 | England | University of Leicester |  |  |  |  |  |  |  |  |
| 97 | England | University of Lincoln |  |  |  |  |  |  | 1 |  |
| 98 | England | University of London |  |  |  |  |  |  |  |  |
| 99 | England | University of Manchester |  |  |  |  |  |  |  |  |
| 100 | England | University of Northampton |  |  |  |  |  |  |  |  |
| 101 | England | University of Nottingham |  |  |  |  |  | 1 |  |  |
| 102 | England | Oxford Brookes University |  |  | 1 |  |  |  |  |  |
| 103 | England | University of Plymouth |  |  |  |  |  | 1 |  |  |
| 104 | England | University of Portsmouth |  | 1 |  |  |  |  |  |  |
| 105 | England | University of Reading |  |  |  | 1 |  |  | 1 |  |
| 106 | England | University of Salford | 1 |  | 1 |  |  |  |  |  |
| 107 | England | University of Sheffield |  |  |  |  |  |  |  |  |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  |  |  |  |  |
| 110 | Scotland | University of St Andrews |  |  |  |  |  |  |  |  |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow |  |  |  |  | 1 |  |  |  |
| 113 | England | University of Sunderland |  |  |  |  |  |  |  |  |
| 114 | England | University of Surrey, Guildford |  |  |  |  |  |  |  |  |
| 115 | England | University of Sussex |  |  | 1 |  | 1 |  |  |  |
| 116 | England | University of the Arts London |  | 1 |  |  |  |  |  |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  |  |  |  |  |  |  | 1 |
| 118 | England | University of the West of England, Bristol |  |  |  |  |  |  |  |  |
| 119 | Scotland | University of the West of Scotland, | 1 |  |  | 1 |  |  | 1 |  |
| 120 | Northern Ireland | University of Ulster |  |  |  |  |  |  |  |  |
| 121 | Wales | University of Wales, Trinity Saint David | 1 |  |  |  | 1 |  |  | 1 |
| 122 | England | University of Warwick |  |  |  |  |  |  |  |  |
| 123 | England | University of West London |  |  |  | 1 |  |  | 1 |  |
| 124 | England | University of Winchester |  |  |  |  |  |  |  |  |
| 125 | England | University of Wolverhampton |  |  |  |  |  |  |  |  |
| 126 | England | University of Worcester |  |  |  |  |  |  | 1 |  |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University |  |  |  |  | 1 |  | 1 |  |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Location | University | Internationalisation of the curricula | Global citizenship | Personal/  social development | Social citizen/social responsibility/socially responsible | Entrepreneurship | Innovative/  Innovation | Employability | Life-long learning |
| 1 | Scotland | Abertay University |  | 1 |  | 1 | 1 |  |  |  |
| 2 | Wales | Aberystwyth University |  | 1 | 1 | 1 |  |  | 1 |  |
| 3 | England | Anglia Ruskin University |  |  |  |  | 1 |  |  |  |
| 4 | England | Aston University, Birmingham |  | 1 |  | 1 | 1 |  | 1 |  |
| 5 | Wales | Bangor University | 1 | 1 |  |  | 1 |  | 1 |  |
| 6 | England | Bath Spa University |  | 1 |  |  | 1 |  | 1 |  |
| 7 | England | Birmingham City University | 1 |  |  |  | 1 |  | 1 |  |
| 8 | England | Bishop Grosseteste University | 1 |  |  |  | 1 |  | 1 |  |
| 9 | England | Bournemouth University |  | 1 | 1 |  | 1 |  | 1 | 1 |
| 10 | England | Brunel University |  |  |  |  |  | 1 |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  | 1 |  |  | 1 |  | 1 |  |
| 12 | England | Canterbury Christ Church University | 1 | 1 |  | 1 |  |  | 1 |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) | 1 | 1 |  |  | 1 |  | 1 | 1 |
| 14 | Wales | Cardiff University | 1 |  |  |  | 1 |  |  |  |
| 15 | England | City University London | 1 |  |  |  | 1 |  | 1 |  |
| 16 | England | Coventry University | 1 | 1 |  | 1 | 1 |  | 1 |  |
| 17 | England | Cranfield University |  |  |  |  |  |  | 1 |  |
| 18 | England | De Montfort University, Leicester | 1 | 1 |  |  | 1 |  | 1 |  |
| 19 | England | Durham University | 1 |  |  |  |  |  | 1 |  |
| 20 | England | Edge Hill University | 1 |  |  |  | 1 |  | 1 | 1 |
| 21 | Scotland | Edinburgh Napier University | 1 |  |  | 1 | 1 | 1 | 1 |  |
| 22 | England | Falmouth University | 1 |  |  |  | 1 |  | 1 |  |
| 23 | Scotland | Glasgow Caledonian University | 1 | 1 |  |  | 1 |  | 1 |  |
| 24 | Wales | Glyndŵr University | 1 | 1 |  |  | 1 |  | 1 |  |
| 25 | England | Goldsmiths University of London | 1 | 1 | 1 | 1 | 1 |  | 1 |  |
| 26 | England | Harper Adams University | 1 |  |  |  |  | 1 | 1 |  |
| 27 | Scotland | Heriot-Watt University | 1 |  |  |  |  |  | 1 |  |
| 28 | England | Imperial College London |  | 1 |  |  | 1 |  | 1 |  |
| 29 | England | Keele University |  | 1 | 1 |  | 1 |  | 1 |  |
| 30 | England | King's College London | 1 |  |  |  |  |  |  |  |
| 31 | England | Lancaster University |  |  |  |  |  |  | 1 |  |
| 32 | England | Leeds Metropolitan University |  |  |  |  | 1 |  | 1 | 1 |
| 33 | England | Leeds Trinity University | 1 | 1 |  |  | 1 |  | 1 |  |
| 34 | England | Liverpool Hope University | 1 | 1 |  |  | 1 |  | 1 |  |
| 35 | England | Liverpool John Moores University | 1 |  |  |  | 1 |  | 1 | 1 |
| 36 | England | London Metropolitan University | 1 | 1 |  |  |  |  | 1 |  |
| 37 | England | London School of Economics and Political Science (LSE) |  |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine |  |  |  |  |  |  |  |  |
| 39 | England | London South Bank University | 1 |  |  |  | 1 |  | 1 |  |
| 40 | England | Loughborough University |  | 1 |  |  | 1 |  | 1 |  |
| 41 | England | Manchester Metropolitan University |  | 1 |  | 1 | 1 | 1 | 1 |  |
| 42 | England | Middlesex University, London |  |  |  |  |  |  | 1 | 1 |
| 43 | England | Newman University | 1 | 1 |  |  | 1 |  | 1 |  |
| 44 | England | Northumbria University |  |  |  |  |  |  | 1 |  |
| 45 | England | Norwich University of the Arts | 1 |  |  |  | 1 | 1 | 1 |  |
| 46 | England | Nottingham Trent University | 1 | 1 |  | 1 | 1 |  | 1 | 1 |
| 47 | England | University of Oxford | 1 | 1 |  |  |  |  | 1 |  |
| 48 | Scotland | Queen Margaret University, Edinburgh | 1 |  |  |  |  |  | 1 | 1 |
| 49 | England | Queen Mary, University of London |  | 1 |  |  |  |  |  |  |
| 50 | Northern Ireland | Queen's University Belfast | 1 | 1 |  |  | 1 |  | 1 |  |
| 51 | England | Roehampton University, London |  |  |  |  |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London |  |  |  |  | 1 |  |  |  |
| 55 | England | Royal College of Music |  |  |  |  |  |  |  | 1 |
| 56 | England | Royal Holloway, University of London |  | 1 |  | 1 |  |  | 1 |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University | 1 | 1 |  |  |  |  | 1 |  |
| 59 | England | Southampton Solent University | 1 |  |  |  |  |  | 1 |  |
| 60 | England | St George's, University of London |  |  |  |  |  |  | 1 |  |
| 61 | England | St Mary's University, Twickenham London |  |  |  |  |  |  | 1 |  |
| 62 | England | Staffordshire University |  | 1 |  |  | 1 |  | 1 | 1 |
| 63 | Northern Ireland | Stranmillis University College |  | 1 |  |  | 1 |  | 1 | 1 |
| 64 | Wales | Swansea University | 1 | 1 |  |  | 1 | 1 | 1 |  |
| 65 | England | Teesside University | 1 |  |  |  | 1 |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  | 1 |  | 1 |  | 1 |  |
| 67 | England | The Open University |  |  |  |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  |  |  |  |  |  | 1 |  |
| 69 | England | University College Birmingham | 1 |  |  |  |  |  | 1 |  |
| 70 | Scotland | University of Aberdeen |  |  |  |  |  |  |  |  |
| 71 | England | University of Bath |  |  | 1 |  |  |  | 1 |  |
| 72 | England | University of Bedfordshire | 1 |  |  |  | 1 |  | 1 |  |
| 73 | England | University of Birmingham | 1 |  |  |  |  |  | 1 |  |
| 74 | England | University of Bolton |  | 1 |  |  | 1 |  | 1 |  |
| 75 | England | University of Bradford |  |  |  |  |  |  |  |  |
| 76 | England | University of Brighton | 1 | 1 |  | 1 |  |  | 1 |  |
| 77 | England | University of Bristol | 1 | 1 | 1 |  | 1 |  | 1 | 1 |
| 78 | England | University of Central Lancashire, Preston and Burnley | 1 |  |  |  | 1 |  | 1 |  |
| 79 | England | University of Chester |  |  |  |  |  |  | 1 |  |
| 80 | England | University of Chichester |  |  |  |  | 1 |  | 1 |  |
| 81 | England | University of Cumbria | 1 |  |  |  | 1 |  | 1 |  |
| 82 | England | University of Derby |  |  |  |  | 1 |  | 1 |  |
| 83 | Scotland | University of Dundee | 1 |  |  | 1 | 1 |  | 1 |  |
| 84 | England | University of East Anglia | 1 | 1 |  |  |  |  | 1 |  |
| 85 | England | University of East London | 1 | 1 |  | 1 | 1 |  | 1 |  |
| 86 | Scotland | University of Edinburgh | 1 | 1 |  | 1 | 1 |  | 1 |  |
| 87 | England | University of Essex | 1 | 1 | 1 |  |  |  | 1 |  |
| 88 | England | University of Exeter | 1 | 1 |  | 1 | 1 |  | 1 | 1 |
| 89 | Scotland | University of Glasgow | 1 | 1 |  |  |  |  |  | 1 |
| 90 | England | University of Gloucestershire | 1 | 1 |  |  | 1 |  | 1 | 1 |
| 91 | England | University of Greenwich |  |  |  |  | 1 |  | 1 |  |
| 92 | England | University of Hertfordshire | 1 |  |  |  | 1 |  | 1 |  |
| 93 | England | University of Hull | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 94 | England | University of Kent |  |  |  |  |  |  | 1 |  |
| 95 | England | University of Leeds | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 96 | England | University of Leicester |  |  |  |  |  |  | 1 |  |
| 97 | England | University of Lincoln | 1 | 1 |  |  |  |  | 1 |  |
| 98 | England | University of London |  |  |  |  |  |  | 1 |  |
| 99 | England | University of Manchester | 1 | 1 |  | 1 |  |  | 1 |  |
| 100 | England | University of Northampton |  |  |  |  |  |  | 1 |  |
| 101 | England | University of Nottingham | 1 | 1 |  | 1 | 1 | 1 | 1 | 1 |
| 102 | England | Oxford Brookes University | 1 | 1 |  |  | 1 |  |  |  |
| 103 | England | University of Plymouth | 1 |  |  |  | 1 |  | 1 |  |
| 104 | England | University of Portsmouth |  | 1 | 1 |  |  |  | 1 |  |
| 105 | England | University of Reading |  |  |  |  |  |  |  |  |
| 106 | England | University of Salford |  | 1 |  |  | 1 |  | 1 | 1 |
| 107 | England | University of Sheffield |  | 1 | 1 |  | 1 |  | 1 |  |
| 108 | Wales | University of South Wales |  |  |  |  |  |  | 1 |  |
| 109 | England | University of Southampton |  |  |  | 1 | 1 |  | 1 |  |
| 110 | Scotland | University of St Andrews |  |  |  | 1 |  |  |  |  |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow | 1 | 1 |  |  | 1 | 1 | 1 |  |
| 113 | England | University of Sunderland |  |  |  |  | 1 |  | 1 |  |
| 114 | England | University of Surrey, Guildford |  |  |  |  |  |  | 1 |  |
| 115 | England | University of Sussex | 1 | 1 |  | 1 | 1 |  | 1 |  |
| 116 | England | University of the Arts London |  |  |  |  | 1 |  | 1 | 1 |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  | 1 |  |  | 1 |  | 1 |  |
| 118 | England | University of the West of England, Bristol |  | 1 |  |  |  |  |  | 1 |
| 119 | Scotland | University of the West of Scotland, | 1 | 1 |  |  | 1 |  | 1 |  |
| 120 | Northern Ireland | University of Ulster |  |  |  |  |  |  | 1 |  |
| 121 | Wales | University of Wales, Trinity Saint David | 1 | 1 |  |  | 1 |  | 1 | 1 |
| 122 | England | University of Warwick | 1 | 1 |  | 1 | 1 |  | 1 |  |
| 123 | England | University of West London | 1 | 1 |  |  | 1 |  | 1 |  |
| 124 | England | University of Winchester | 1 | 1 |  |  |  |  | 1 | 1 |
| 125 | England | University of Wolverhampton | 1 | 1 |  |  | 1 |  | 1 |  |
| 126 | England | University of Worcester | 1 | 1 |  |  |  |  | 1 | 1 |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University | 1 | 1 |  |  | 1 | 1 | 1 | 1 |

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|  | Location | University | Critical thinking/questioning/enquiring learners | Reflective minds/thinking | Skills for life | Multiculturalism | Environmentally responsible citizens | Responsible & ethical citizens | Moral Integrity | Professional values and ethics/ behaviour |
| 1 | Scotland | Abertay University |  |  |  | 1 | 1 | 1 |  | 1 |
| 2 | Wales | Aberystwyth University |  |  | 1 | 1 |  |  |  |  |
| 3 | England | Anglia Ruskin University |  |  |  |  |  |  |  |  |
| 4 | England | Aston University, Birmingham |  |  |  | 1 |  |  |  |  |
| 5 | Wales | Bangor University | 1 |  |  | 1 |  |  |  |  |
| 6 | England | Bath Spa University |  |  |  | 1 |  |  |  |  |
| 7 | England | Birmingham City University |  |  |  |  |  |  |  |  |
| 8 | England | Bishop Grosseteste University |  |  |  | 1 |  |  |  |  |
| 9 | England | Bournemouth University | 1 |  |  | 1 |  |  |  |  |
| 10 | England | Brunel University |  |  |  |  |  |  |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  |  |  |  |  |  |  |  |
| 12 | England | Canterbury Christ Church University |  |  |  |  | 1 |  |  |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) |  |  |  | 1 |  |  |  |  |
| 14 | Wales | Cardiff University |  |  |  |  |  |  |  |  |
| 15 | England | City University London |  |  |  |  |  |  |  |  |
| 16 | England | Coventry University |  |  |  |  |  |  |  |  |
| 17 | England | Cranfield University |  |  |  |  |  |  |  |  |
| 18 | England | De Montfort University, Leicester |  |  |  | 1 |  |  |  |  |
| 19 | England | Durham University |  |  |  |  |  |  |  |  |
| 20 | England | Edge Hill University |  |  |  |  |  |  |  |  |
| 21 | Scotland | Edinburgh Napier University |  |  |  | 1 |  |  |  |  |
| 22 | England | Falmouth University |  |  |  |  |  |  |  |  |
| 23 | Scotland | Glasgow Caledonian University |  |  |  |  |  |  |  |  |
| 24 | Wales | Glyndŵr University |  |  |  |  |  |  |  |  |
| 25 | England | Goldsmiths University of London |  |  |  |  |  |  |  |  |
| 26 | England | Harper Adams University |  |  |  |  |  |  |  |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London |  |  |  |  |  |  |  |  |
| 29 | England | Keele University |  |  |  |  |  |  |  |  |
| 30 | England | King's College London |  |  |  | 1 |  |  |  |  |
| 31 | England | Lancaster University |  |  |  |  |  |  |  |  |
| 32 | England | Leeds Metropolitan University | 1 |  |  | 1 |  |  |  |  |
| 33 | England | Leeds Trinity University |  |  |  | 1 |  |  |  | 1 |
| 34 | England | Liverpool Hope University |  |  |  |  |  |  |  |  |
| 35 | England | Liverpool John Moores University |  |  |  | 1 |  | 1 |  |  |
| 36 | England | London Metropolitan University |  |  |  | 1 |  |  |  |  |
| 37 | England | London School of Economics and Political Science (LSE) |  |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine |  |  |  |  |  |  |  |  |
| 39 | England | London South Bank University |  |  |  | 1 |  |  |  |  |
| 40 | England | Loughborough University |  |  |  | 1 |  |  |  |  |
| 41 | England | Manchester Metropolitan University |  |  |  | 1 |  | 1 |  | 1 |
| 42 | England | Middlesex University, London |  |  |  | 1 |  |  |  |  |
| 43 | England | Newman University |  | 1 |  |  |  |  | 1 |  |
| 44 | England | Northumbria University |  |  |  |  |  |  |  |  |
| 45 | England | Norwich University of the Arts |  |  |  | 1 |  |  |  |  |
| 46 | England | Nottingham Trent University |  | 1 |  | 1 |  |  |  | 1 |
| 47 | England | University of Oxford | 1 |  |  |  |  |  |  |  |
| 48 | Scotland | Queen Margaret University, Edinburgh |  | 1 |  |  |  |  |  |  |
| 49 | England | Queen Mary, University of London |  |  |  |  |  |  |  | 1 |
| 50 | Northern Ireland | Queen's University Belfast |  |  |  | 1 |  |  |  |  |
| 51 | England | Roehampton University, London |  |  |  |  |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London |  |  |  |  |  |  |  |  |
| 55 | England | Royal College of Music |  |  |  |  |  |  |  |  |
| 56 | England | Royal Holloway, University of London |  |  |  |  |  |  |  |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University |  |  |  | 1 |  |  |  |  |
| 59 | England | Southampton Solent University | 1 |  |  | 1 |  | 1 |  |  |
| 60 | England | St George's, University of London |  |  |  |  |  |  |  |  |
| 61 | England | St Mary's University, Twickenham London |  |  |  |  |  |  |  |  |
| 62 | England | Staffordshire University |  |  |  |  |  |  |  |  |
| 63 | Northern Ireland | Stranmillis University College | 1 |  |  |  |  |  |  |  |
| 64 | Wales | Swansea University |  |  |  | 1 |  |  |  |  |
| 65 | England | Teesside University |  |  |  | 1 |  |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  |  |  |  |  |
| 67 | England | The Open University |  |  |  |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  |  |  |  |  |  |  |  |
| 69 | England | University College Birmingham |  |  |  |  |  |  |  |  |
| 70 | Scotland | University of Aberdeen |  |  |  | 1 |  |  |  |  |
| 71 | England | University of Bath |  |  |  |  |  |  |  |  |
| 72 | England | University of Bedfordshire |  |  |  |  |  |  |  |  |
| 73 | England | University of Birmingham |  |  |  |  |  |  |  |  |
| 74 | England | University of Bolton | 1 |  |  |  |  |  |  |  |
| 75 | England | University of Bradford |  |  |  |  |  |  |  |  |
| 76 | England | University of Brighton | 1 |  |  | 1 |  |  |  |  |
| 77 | England | University of Bristol |  |  |  | 1 |  |  |  |  |
| 78 | England | University of Central Lancashire, Preston and Burnley |  |  |  |  |  |  |  |  |
| 79 | England | University of Chester |  |  |  | 1 |  |  |  |  |
| 80 | England | University of Chichester |  |  |  |  |  |  |  |  |
| 81 | England | University of Cumbria |  |  |  |  |  |  |  |  |
| 82 | England | University of Derby |  |  |  |  |  |  |  |  |
| 83 | Scotland | University of Dundee |  |  |  |  |  |  |  |  |
| 84 | England | University of East Anglia |  |  |  |  |  |  |  |  |
| 85 | England | University of East London |  |  |  | 1 |  | 1 |  |  |
| 86 | Scotland | University of Edinburgh |  |  |  | 1 |  |  |  |  |
| 87 | England | University of Essex |  |  |  | 1 |  |  |  |  |
| 88 | England | University of Exeter |  |  |  | 1 |  |  |  |  |
| 89 | Scotland | University of Glasgow |  |  |  |  |  |  |  |  |
| 90 | England | University of Gloucestershire |  |  |  |  |  |  |  |  |
| 91 | England | University of Greenwich |  |  |  | 1 |  |  |  |  |
| 92 | England | University of Hertfordshire |  |  |  | 1 |  |  |  |  |
| 93 | England | University of Hull | 1 | 1 |  | 1 |  | 1 |  |  |
| 94 | England | University of Kent |  |  |  | 1 |  | 1 |  |  |
| 95 | England | University of Leeds |  |  |  | 1 |  |  |  |  |
| 96 | England | University of Leicester |  |  |  |  |  |  |  |  |
| 97 | England | University of Lincoln |  |  |  |  |  | 1 |  |  |
| 98 | England | University of London |  |  |  |  |  |  |  |  |
| 99 | England | University of Manchester | 1 |  | 1 | 1 |  | 1 |  |  |
| 100 | England | University of Northampton |  |  |  |  |  |  |  |  |
| 101 | England | University of Nottingham |  |  |  | 1 | 1 |  |  |  |
| 102 | England | Oxford Brookes University |  |  |  | 1 |  |  |  |  |
| 103 | England | University of Plymouth |  |  |  | 1 |  |  |  |  |
| 104 | England | University of Portsmouth |  |  |  |  |  |  |  |  |
| 105 | England | University of Reading |  |  |  |  |  |  |  |  |
| 106 | England | University of Salford |  | 1 |  |  |  |  |  |  |
| 107 | England | University of Sheffield |  |  |  | 1 |  |  |  |  |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  |  |  |  |  |
| 110 | Scotland | University of St Andrews |  |  |  |  |  |  |  |  |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow |  |  |  | 1 |  | 1 |  |  |
| 113 | England | University of Sunderland |  |  |  |  |  | 1 |  |  |
| 114 | England | University of Surrey, Guildford |  |  |  |  |  |  |  |  |
| 115 | England | University of Sussex |  |  |  | 1 |  |  |  | 1 |
| 116 | England | University of the Arts London | 1 |  |  | 1 |  |  |  |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  |  |  |  |  |  |  |  |
| 118 | England | University of the West of England, Bristol |  |  |  |  |  |  |  | 1 |
| 119 | Scotland | University of the West of Scotland, |  |  |  | 1 |  |  |  |  |
| 120 | Northern Ireland | University of Ulster |  |  |  | 1 |  |  |  |  |
| 121 | Wales | University of Wales, Trinity Saint David |  |  |  |  |  |  |  |  |
| 122 | England | University of Warwick |  |  |  | 1 |  |  |  |  |
| 123 | England | University of West London |  |  |  |  |  |  |  |  |
| 124 | England | University of Winchester | 1 |  |  | 1 |  | 1 |  |  |
| 125 | England | University of Wolverhampton |  |  |  | 1 |  |  |  |  |
| 126 | England | University of Worcester |  |  |  |  |  | 1 |  |  |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University |  |  | 1 | 1 |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Location | University | Change makers | Use green spaces | Grow food | Local culture | Society development | Sustainable communities | Economic development | Inclusivity/widening participation or access |
| 1 | Scotland | Abertay University | 1 |  |  | 1 | 1 |  | 1 |  |
| 2 | Wales | Aberystwyth University |  | 1 | 1 |  |  |  | 1 |  |
| 3 | England | Anglia Ruskin University |  |  |  | 1 | 1 |  | 1 | 1 |
| 4 | England | Aston University, Birmingham |  |  |  |  | 1 |  | 1 |  |
| 5 | Wales | Bangor University |  |  |  | 1 | 1 | 1 | 1 | 1 |
| 6 | England | Bath Spa University |  |  |  | 1 | 1 |  | 1 |  |
| 7 | England | Birmingham City University |  |  |  | 1 | 1 |  | 1 |  |
| 8 | England | Bishop Grosseteste University |  |  |  |  | 1 |  | 1 |  |
| 9 | England | Bournemouth University |  |  |  |  | 1 |  | 1 |  |
| 10 | England | Brunel University | 1 |  |  |  |  | 1 |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  |  |  |  | 1 |  | 1 | 1 |
| 12 | England | Canterbury Christ Church University | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 13 | Wales | Cardiff Metropolitan University (UWIC) |  |  |  |  | 1 |  | 1 | 1 |
| 14 | Wales | Cardiff University |  |  |  | 1 |  | 1 | 1 | 1 |
| 15 | England | City University London |  |  |  | 1 |  |  | 1 | 1 |
| 16 | England | Coventry University |  |  |  |  | 1 |  |  |  |
| 17 | England | Cranfield University | 1 |  |  |  | 1 |  | 1 |  |
| 18 | England | De Montfort University, Leicester |  |  |  |  |  |  |  |  |
| 19 | England | Durham University |  |  |  |  | 1 |  |  |  |
| 20 | England | Edge Hill University |  |  |  | 1 | 1 | 1 | 1 | 1 |
| 21 | Scotland | Edinburgh Napier University |  |  |  | 1 | 1 |  | 1 | 1 |
| 22 | England | Falmouth University |  |  |  | 1 |  |  | 1 |  |
| 23 | Scotland | Glasgow Caledonian University |  |  |  | 1 | 1 |  | 1 | 1 |
| 24 | Wales | Glyndŵr University |  |  |  | 1 | 1 |  | 1 | 1 |
| 25 | England | Goldsmiths University of London |  |  |  | 1 | 1 |  | 1 | 1 |
| 26 | England | Harper Adams University |  |  |  |  | 1 |  | 1 |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London |  |  |  |  | 1 | 1 |  | 1 |
| 29 | England | Keele University | 1 |  |  | 1 | 1 | 1 | 1 | 1 |
| 30 | England | King's College London |  |  |  | 1 | 1 |  | 1 |  |
| 31 | England | Lancaster University |  |  |  |  | 1 |  | 1 |  |
| 32 | England | Leeds Metropolitan University |  |  |  | 1 | 1 |  | 1 | 1 |
| 33 | England | Leeds Trinity University | 1 |  |  | 1 | 1 |  | 1 | 1 |
| 34 | England | Liverpool Hope University | 1 |  |  | 1 | 1 |  |  | 1 |
| 35 | England | Liverpool John Moores University | 1 |  |  | 1 | 1 |  | 1 | 1 |
| 36 | England | London Metropolitan University |  |  |  |  | 1 |  |  | 1 |
| 37 | England | London School of Economics and Political Science (LSE) |  |  |  |  | 1 |  |  | 1 |
| 38 | England | London School of Hygiene and Tropical Medicine |  |  |  |  | 1 |  |  |  |
| 39 | England | London South Bank University | 1 |  |  | 1 | 1 |  |  | 1 |
| 40 | England | Loughborough University |  |  |  |  | 1 |  | 1 | 1 |
| 41 | England | Manchester Metropolitan University |  |  |  | 1 | 1 |  | 1 | 1 |
| 42 | England | Middlesex University, London | 1 |  |  |  | 1 |  |  | 1 |
| 43 | England | Newman University | 1 |  |  |  | 1 |  |  | 1 |
| 44 | England | Northumbria University |  |  |  |  | 1 |  |  |  |
| 45 | England | Norwich University of the Arts |  |  |  | 1 | 1 |  | 1 |  |
| 46 | England | Nottingham Trent University | 1 |  |  | 1 | 1 |  | 1 | 1 |
| 47 | England | University of Oxford |  |  |  | 1 | 1 |  | 1 | 1 |
| 48 | Scotland | Queen Margaret University, Edinburgh |  |  |  |  |  | 1 |  | 1 |
| 49 | England | Queen Mary, University of London |  |  |  | 1 | 1 |  |  |  |
| 50 | Northern Ireland | Queen's University Belfast |  |  |  |  | 1 |  |  |  |
| 51 | England | Roehampton University, London |  |  |  | 1 |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  | 1 |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  | 1 |
| 54 | England | Royal College of Art, London |  |  |  |  | 1 |  | 1 |  |
| 55 | England | Royal College of Music |  |  |  |  |  |  |  | 1 |
| 56 | England | Royal Holloway, University of London |  |  |  | 1 | 1 |  | 1 | 1 |
| 57 | England | Royal Veterinary College |  |  |  |  | 1 |  |  |  |
| 58 | England | Sheffield Hallam University |  |  |  |  | 1 |  | 1 | 1 |
| 59 | England | Southampton Solent University |  |  |  |  | 1 |  | 1 | 1 |
| 60 | England | St George's, University of London |  |  |  |  |  |  |  | 1 |
| 61 | England | St Mary's University, Twickenham London |  |  |  |  |  |  |  | 1 |
| 62 | England | Staffordshire University |  |  |  |  |  |  | 1 |  |
| 63 | Northern Ireland | Stranmillis University College |  |  |  |  | 1 |  |  | 1 |
| 64 | Wales | Swansea University |  |  |  | 1 | 1 |  | 1 | 1 |
| 65 | England | Teesside University |  |  |  | 1 | 1 |  | 1 |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  | 1 |  | 1 |  |
| 67 | England | The Open University |  |  |  |  |  |  |  | 1 |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  |  |  |  | 1 |  |  | 1 |
| 69 | England | University College Birmingham |  |  |  |  |  |  | 1 | 1 |
| 70 | Scotland | University of Aberdeen |  |  |  |  | 1 |  |  |  |
| 71 | England | University of Bath | 1 |  |  |  | 1 |  | 1 | 1 |
| 72 | England | University of Bedfordshire | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 73 | England | University of Birmingham |  |  |  | 1 | 1 |  | 1 |  |
| 74 | England | University of Bolton | 1 |  |  |  |  |  |  |  |
| 75 | England | University of Bradford |  |  |  |  | 1 |  | 1 |  |
| 76 | England | University of Brighton |  |  |  |  | 1 |  | 1 | 1 |
| 77 | England | University of Bristol | 1 |  |  | 1 | 1 | 1 | 1 | 1 |
| 78 | England | University of Central Lancashire, Preston and Burnley |  |  |  |  | 1 | 1 | 1 | 1 |
| 79 | England | University of Chester |  |  |  | 1 | 1 |  | 1 |  |
| 80 | England | University of Chichester |  |  |  |  | 1 |  | 1 | 1 |
| 81 | England | University of Cumbria |  |  |  |  | 1 |  |  |  |
| 82 | England | University of Derby |  |  |  | 1 | 1 |  | 1 |  |
| 83 | Scotland | University of Dundee |  |  |  | 1 | 1 | 1 | 1 | 1 |
| 84 | England | University of East Anglia |  |  |  | 1 |  |  | 1 | 1 |
| 85 | England | University of East London | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 86 | Scotland | University of Edinburgh |  |  |  | 1 | 1 |  | 1 |  |
| 87 | England | University of Essex | 1 |  |  |  | 1 |  |  | 1 |
| 88 | England | University of Exeter | 1 | 1 |  | 1 | 1 |  | 1 | 1 |
| 89 | Scotland | University of Glasgow |  |  |  | 1 |  |  | 1 |  |
| 90 | England | University of Gloucestershire | 1 |  |  |  | 1 | 1 | 1 |  |
| 91 | England | University of Greenwich |  |  |  |  |  | 1 |  |  |
| 92 | England | University of Hertfordshire |  |  |  | 1 | 1 |  | 1 |  |
| 93 | England | University of Hull |  |  |  | 1 | 1 | 1 |  | 1 |
| 94 | England | University of Kent |  |  |  |  | 1 |  | 1 |  |
| 95 | England | University of Leeds |  | 1 |  |  | 1 |  | 1 | 1 |
| 96 | England | University of Leicester |  |  |  | 1 |  |  | 1 | 1 |
| 97 | England | University of Lincoln |  |  |  |  | 1 |  |  | 1 |
| 98 | England | University of London |  |  |  |  |  |  |  |  |
| 99 | England | University of Manchester |  |  |  | 1 | 1 |  | 1 | 1 |
| 100 | England | University of Northampton |  |  |  | 1 |  |  | 1 | 1 |
| 101 | England | University of Nottingham | 1 |  |  | 1 | 1 | 1 | 1 | 1 |
| 102 | England | Oxford Brookes University | 1 |  |  | 1 | 1 |  | 1 | 1 |
| 103 | England | University of Plymouth |  |  |  |  | 1 | 1 | 1 | 1 |
| 104 | England | University of Portsmouth |  |  |  |  | 1 |  | 1 | 1 |
| 105 | England | University of Reading |  |  |  |  | 1 | 1 |  |  |
| 106 | England | University of Salford |  |  |  |  |  |  | 1 | 1 |
| 107 | England | University of Sheffield |  |  |  |  | 1 |  | 1 | 1 |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  | 1 |  | 1 |  |
| 110 | Scotland | University of St Andrews |  |  |  |  |  |  |  |  |
| 111 | Scotland | University of Stirling |  |  |  | 1 | 1 |  | 1 |  |
| 112 | Scotland | University of Strathclyde, Glasgow | 1 |  |  | 1 | 1 |  | 1 |  |
| 113 | England | University of Sunderland |  |  |  | 1 | 1 |  | 1 |  |
| 114 | England | University of Surrey, Guildford |  |  |  |  |  |  | 1 | 1 |
| 115 | England | University of Sussex |  |  |  | 1 | 1 |  | 1 | 1 |
| 116 | England | University of the Arts London |  |  |  | 1 | 1 |  |  |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  |  |  | 1 | 1 | 1 | 1 | 1 |
| 118 | England | University of the West of England, Bristol | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 119 | Scotland | University of the West of Scotland, | 1 |  |  |  | 1 |  | 1 | 1 |
| 120 | Northern Ireland | University of Ulster |  |  |  | 1 | 1 |  | 1 |  |
| 121 | Wales | University of Wales, Trinity Saint David |  |  |  | 1 |  | 1 | 1 | 1 |
| 122 | England | University of Warwick | 1 | 1 |  |  | 1 | 1 | 1 | 1 |
| 123 | England | University of West London |  |  |  |  | 1 |  | 1 |  |
| 124 | England | University of Winchester |  |  |  |  |  | 1 |  | 1 |
| 125 | England | University of Wolverhampton |  |  |  |  | 1 |  | 1 | 1 |
| 126 | England | University of Worcester | 1 |  |  | 1 | 1 | 1 | 1 | 1 |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University | 1 |  |  | 1 | 1 |  | 1 | 1 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Location | University | equality and diversity/ dignity/democracy/embraces difference and mutual respect | students/ staff – their academic, social, | Social Justice/common good/public good | Promote Peace | Institutional Social/civic/Corporate Responsibility | Sustainability/sustainable development | (any or all aspects of ) Sustainability Research | Financial sustainability |
| 1 | Scotland | Abertay University |  |  |  |  |  |  |  |  |
| 2 | Wales | Aberystwyth University |  |  |  |  | 1 |  | 1 |  |
| 3 | England | Anglia Ruskin University | 1 |  |  |  |  |  |  |  |
| 4 | England | Aston University, Birmingham |  |  |  |  | 1 | 1 | 1 |  |
| 5 | Wales | Bangor University |  |  |  |  |  | 1 | 1 | 1 |
| 6 | England | Bath Spa University |  |  |  |  |  | 1 |  |  |
| 7 | England | Birmingham City University |  |  |  |  |  |  |  |  |
| 8 | England | Bishop Grosseteste University |  |  |  |  |  |  |  |  |
| 9 | England | Bournemouth University |  |  | 1 |  | 1 |  |  |  |
| 10 | England | Brunel University |  |  |  |  |  | 1 |  | 1 |
| 11 | England | Buckinghamshire New University, High Wycombe | 1 |  |  |  |  | 1 |  |  |
| 12 | England | Canterbury Christ Church University |  |  |  |  |  |  |  |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) | 1 |  | 1 |  |  |  |  |  |
| 14 | Wales | Cardiff University | 1 |  |  |  |  |  |  |  |
| 15 | England | City University London | 1 |  |  |  |  |  |  |  |
| 16 | England | Coventry University |  |  |  |  |  |  | 1 | 1 |
| 17 | England | Cranfield University |  |  |  |  |  |  |  |  |
| 18 | England | De Montfort University, Leicester |  |  |  |  | 1 | 1 | 1 |  |
| 19 | England | Durham University |  |  |  |  |  |  | 1 |  |
| 20 | England | Edge Hill University | 1 |  |  |  | 1 |  |  |  |
| 21 | Scotland | Edinburgh Napier University | 1 |  |  |  |  |  |  | 1 |
| 22 | England | Falmouth University |  |  |  |  | 1 |  | 1 | 1 |
| 23 | Scotland | Glasgow Caledonian University | 1 |  |  |  |  |  |  |  |
| 24 | Wales | Glyndŵr University | 1 |  | 1 |  |  | 1 |  | 1 |
| 25 | England | Goldsmiths University of London | 1 |  |  |  |  |  |  |  |
| 26 | England | Harper Adams University |  |  |  |  |  |  | 1 |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London | 1 |  |  |  |  |  | 1 | 1 |
| 29 | England | Keele University | 1 |  |  |  |  |  | 1 |  |
| 30 | England | King's College London | 1 |  |  |  |  |  |  |  |
| 31 | England | Lancaster University |  |  |  |  |  | 1 |  | 1 |
| 32 | England | Leeds Metropolitan University | 1 |  |  |  |  |  |  | 1 |
| 33 | England | Leeds Trinity University | 1 | 1 | 1 | 1 |  |  |  |  |
| 34 | England | Liverpool Hope University |  |  |  |  |  |  |  | 1 |
| 35 | England | Liverpool John Moores University |  |  |  |  | 1 |  |  | 1 |
| 36 | England | London Metropolitan University |  |  | 1 |  | 1 |  |  | 1 |
| 37 | England | London School of Economics and Political Science (LSE) | 1 |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine | 1 |  |  |  |  |  |  |  |
| 39 | England | London South Bank University |  |  |  |  |  |  |  |  |
| 40 | England | Loughborough University |  |  |  |  |  |  |  |  |
| 41 | England | Manchester Metropolitan University |  |  |  |  |  |  |  | 1 |
| 42 | England | Middlesex University, London |  |  |  |  | 1 | 1 |  | 1 |
| 43 | England | Newman University | 1 |  | 1 |  |  | 1 |  |  |
| 44 | England | Northumbria University |  |  |  |  |  |  |  |  |
| 45 | England | Norwich University of the Arts | 1 |  |  |  |  |  |  | 1 |
| 46 | England | Nottingham Trent University | 1 |  |  |  |  |  |  |  |
| 47 | England | University of Oxford | 1 |  |  |  |  |  | 1 |  |
| 48 | Scotland | Queen Margaret University, Edinburgh | 1 |  |  |  | 1 | 1 |  |  |
| 49 | England | Queen Mary, University of London | 1 |  | 1 |  |  |  |  |  |
| 50 | Northern Ireland | Queen's University Belfast |  |  |  |  |  |  |  | 1 |
| 51 | England | Roehampton University, London |  |  |  |  |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London |  |  |  |  |  |  |  |  |
| 55 | England | Royal College of Music |  |  |  |  |  |  |  |  |
| 56 | England | Royal Holloway, University of London | 1 |  | 1 |  |  |  |  |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University | 1 |  |  |  | 1 |  |  |  |
| 59 | England | Southampton Solent University | 1 |  | 1 |  |  |  |  |  |
| 60 | England | St George's, University of London |  |  |  |  |  |  |  |  |
| 61 | England | St Mary's University, Twickenham London |  | 1 |  |  | 1 |  |  |  |
| 62 | England | Staffordshire University |  |  |  |  | 1 |  |  |  |
| 63 | Northern Ireland | Stranmillis University College |  |  |  |  | 1 |  | 1 |  |
| 64 | Wales | Swansea University |  |  |  |  |  |  | 1 |  |
| 65 | England | Teesside University | 1 |  | 1 |  | 1 |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  |  |  |  |  |
| 67 | England | The Open University |  |  | 1 |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  |  |  |  |  |  |  |  |
| 69 | England | University College Birmingham | 1 |  |  |  | 1 |  |  |  |
| 70 | Scotland | University of Aberdeen |  |  |  |  |  |  |  |  |
| 71 | England | University of Bath | 1 |  |  |  |  |  |  |  |
| 72 | England | University of Bedfordshire |  |  |  |  |  | 1 | 1 |  |
| 73 | England | University of Birmingham |  |  |  |  | 1 |  |  |  |
| 74 | England | University of Bolton |  |  |  |  |  |  |  |  |
| 75 | England | University of Bradford | 1 |  |  |  |  |  |  |  |
| 76 | England | University of Brighton | 1 |  | 1 |  |  |  |  |  |
| 77 | England | University of Bristol | 1 | 1 |  |  | 1 | 1 | 1 | 1 |
| 78 | England | University of Central Lancashire, Preston and Burnley | 1 |  |  |  |  | 1 |  |  |
| 79 | England | University of Chester |  |  |  |  | 1 |  |  |  |
| 80 | England | University of Chichester | 1 |  |  |  |  |  |  |  |
| 81 | England | University of Cumbria |  |  |  |  |  |  |  |  |
| 82 | England | University of Derby |  |  |  |  |  |  |  |  |
| 83 | Scotland | University of Dundee | 1 |  |  |  | 1 |  | 1 |  |
| 84 | England | University of East Anglia | 1 |  | 1 |  |  |  | 1 |  |
| 85 | England | University of East London |  |  |  |  |  | 1 | 1 |  |
| 86 | Scotland | University of Edinburgh |  |  |  |  | 1 | 1 |  | 1 |
| 87 | England | University of Essex |  |  |  |  |  |  |  |  |
| 88 | England | University of Exeter |  |  |  |  | 1 | 1 | 1 | 1 |
| 89 | Scotland | University of Glasgow |  |  |  |  |  |  |  |  |
| 90 | England | University of Gloucestershire | 1 | 1 |  |  | 1 | 1 | 1 | 1 |
| 91 | England | University of Greenwich |  |  |  |  |  |  |  | 1 |
| 92 | England | University of Hertfordshire |  |  |  |  |  |  |  | 1 |
| 93 | England | University of Hull | 1 |  |  |  |  |  | 1 |  |
| 94 | England | University of Kent |  |  |  |  | 1 |  |  |  |
| 95 | England | University of Leeds |  |  |  |  |  |  |  |  |
| 96 | England | University of Leicester |  |  |  |  |  |  |  |  |
| 97 | England | University of Lincoln |  |  |  |  |  |  |  |  |
| 98 | England | University of London |  |  |  |  |  |  |  |  |
| 99 | England | University of Manchester | 1 |  |  |  | 1 |  | 1 |  |
| 100 | England | University of Northampton | 1 |  |  |  |  |  |  |  |
| 101 | England | University of Nottingham | 1 |  |  |  | 1 |  | 1 |  |
| 102 | England | Oxford Brookes University |  |  |  |  | 1 |  |  |  |
| 103 | England | University of Plymouth | 1 |  |  |  | 1 | 1 | 1 | 1 |
| 104 | England | University of Portsmouth | 1 |  |  |  | 1 |  |  |  |
| 105 | England | University of Reading |  |  |  |  |  |  |  |  |
| 106 | England | University of Salford | 1 |  |  |  |  |  | 1 |  |
| 107 | England | University of Sheffield | 1 |  |  |  | 1 |  |  |  |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  |  | 1 |  |  |
| 110 | Scotland | University of St Andrews | 1 |  |  |  |  |  |  | 1 |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow |  |  |  |  |  |  |  |  |
| 113 | England | University of Sunderland |  |  |  |  |  |  |  | 1 |
| 114 | England | University of Surrey, Guildford | 1 |  |  |  | 1 |  | 1 |  |
| 115 | England | University of Sussex | 1 |  |  |  |  |  |  | 1 |
| 116 | England | University of the Arts London | 1 |  | 1 |  |  |  | 1 |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness | 1 |  |  |  |  |  |  |  |
| 118 | England | University of the West of England, Bristol | 1 |  | 1 |  |  |  | 1 |  |
| 119 | Scotland | University of the West of Scotland, |  |  |  |  |  |  |  |  |
| 120 | Northern Ireland | University of Ulster |  |  |  |  | 1 |  |  | 1 |
| 121 | Wales | University of Wales, Trinity Saint David | 1 |  | 1 |  |  | 1 |  |  |
| 122 | England | University of Warwick | 1 |  |  |  | 1 |  | 1 | 1 |
| 123 | England | University of West London | 1 |  |  |  |  |  |  |  |
| 124 | England | University of Winchester | 1 | 1 | 1 |  |  |  | 1 |  |
| 125 | England | University of Wolverhampton |  |  |  |  | 1 |  |  |  |
| 126 | England | University of Worcester | 1 |  |  |  | 1 | 1 | 1 |  |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University | 1 |  | 1 |  |  |  |  |  |

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|  | Location | University | Environmental Impact/performance, greening the University/Environmental stewardship/environmental sustainability | bio diversity | Institutional Carbon reduction/management | institution's sustainable procurement | water management | waste management | Sustainable travel/transport | space management/utilisation/efficiency | staff and or student engagement/participation |
| 1 | Scotland | Abertay University |  |  |  |  |  |  |  |  |  |
| 2 | Wales | Aberystwyth University | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |  |
| 3 | England | Anglia Ruskin University | 1 |  | 1 |  |  |  |  |  |  |
| 4 | England | Aston University, Birmingham |  | 1 | 1 |  |  |  |  |  |  |
| 5 | Wales | Bangor University |  |  | 1 |  |  |  |  |  |  |
| 6 | England | Bath Spa University |  |  |  |  |  |  |  |  |  |
| 7 | England | Birmingham City University | 1 |  | 1 |  |  |  |  |  |  |
| 8 | England | Bishop Grosseteste University | 1 |  |  |  |  |  |  |  |  |
| 9 | England | Bournemouth University | 1 | 1 | 1 | 1 |  |  |  |  |  |
| 10 | England | Brunel University |  |  |  |  |  |  |  |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  |  | 1 | 1 |  | 1 | 1 | 1 |  |
| 12 | England | Canterbury Christ Church University | 1 |  |  |  |  |  |  |  |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) | 1 |  | 1 |  |  |  |  |  |  |
| 14 | Wales | Cardiff University | 1 |  | 1 |  |  |  |  |  |  |
| 15 | England | City University London | 1 |  | 1 |  |  |  |  |  |  |
| 16 | England | Coventry University | 1 |  | 1 |  |  |  |  | 1 | 1 |
| 17 | England | Cranfield University | 1 |  |  |  |  |  |  |  |  |
| 18 | England | De Montfort University, Leicester |  |  | 1 |  |  |  |  |  |  |
| 19 | England | Durham University | 1 |  |  |  |  |  |  |  |  |
| 20 | England | Edge Hill University |  |  |  |  |  |  |  |  |  |
| 21 | Scotland | Edinburgh Napier University | 1 |  |  |  |  |  |  |  | 1 |
| 22 | England | Falmouth University | 1 |  |  | 1 |  |  |  |  |  |
| 23 | Scotland | Glasgow Caledonian University | 1 |  | 1 |  |  |  |  |  |  |
| 24 | Wales | Glyndŵr University |  |  | 1 |  |  |  |  |  | 1 |
| 25 | England | Goldsmiths University of London |  |  |  |  |  |  |  |  |  |
| 26 | England | Harper Adams University | 1 |  | 1 |  |  | 1 |  |  |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London | 1 |  | 1 |  |  |  |  |  | 1 |
| 29 | England | Keele University | 1 |  | 1 |  |  |  | 1 |  | 1 |
| 30 | England | King's College London |  |  |  |  |  |  |  |  |  |
| 31 | England | Lancaster University |  |  | 1 |  |  |  |  |  |  |
| 32 | England | Leeds Metropolitan University | 1 |  | 1 | 1 |  |  |  | 1 | 1 |
| 33 | England | Leeds Trinity University |  |  |  |  |  |  |  |  |  |
| 34 | England | Liverpool Hope University | 1 |  | 1 |  |  |  |  |  | 1 |
| 35 | England | Liverpool John Moores University | 1 |  | 1 |  |  |  |  |  |  |
| 36 | England | London Metropolitan University | 1 |  | 1 |  |  |  |  | 1 |  |
| 37 | England | London School of Economics and Political Science (LSE) | 1 |  |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine | 1 |  | 1 |  |  |  |  | 1 |  |
| 39 | England | London South Bank University |  |  |  |  |  |  |  |  |  |
| 40 | England | Loughborough University |  |  |  |  |  |  |  |  |  |
| 41 | England | Manchester Metropolitan University | 1 |  | 1 |  |  |  |  |  |  |
| 42 | England | Middlesex University, London |  |  |  |  |  |  |  |  |  |
| 43 | England | Newman University |  |  |  |  |  |  |  |  |  |
| 44 | England | Northumbria University |  |  |  |  |  |  |  |  |  |
| 45 | England | Norwich University of the Arts | 1 |  |  |  |  |  |  |  |  |
| 46 | England | Nottingham Trent University | 1 |  | 1 |  |  |  |  | 1 |  |
| 47 | England | University of Oxford | 1 |  | 1 |  |  | 1 |  | 1 |  |
| 48 | Scotland | Queen Margaret University, Edinburgh |  |  |  |  |  |  |  |  |  |
| 49 | England | Queen Mary, University of London | 1 |  | 1 |  |  |  |  |  | 1 |
| 50 | Northern Ireland | Queen's University Belfast | 1 |  |  |  |  |  |  |  |  |
| 51 | England | Roehampton University, London | 1 |  |  |  |  |  |  |  | 1 |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama | 1 |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London | 1 |  | 1 |  |  |  |  |  |  |
| 55 | England | Royal College of Music | 1 |  |  |  |  |  |  |  |  |
| 56 | England | Royal Holloway, University of London | 1 |  |  |  |  |  |  |  |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University | 1 |  |  |  |  |  |  |  |  |
| 59 | England | Southampton Solent University |  |  |  |  |  |  |  |  |  |
| 60 | England | St George's, University of London | 1 |  |  | 1 |  |  |  | 1 | 1 |
| 61 | England | St Mary's University, Twickenham London | 1 |  |  |  |  |  |  |  |  |
| 62 | England | Staffordshire University | 1 |  | 1 |  |  |  |  |  |  |
| 63 | Northern Ireland | Stranmillis University College | 1 |  |  |  |  | 1 |  |  |  |
| 64 | Wales | Swansea University | 1 |  | 1 |  |  |  |  |  | 1 |
| 65 | England | Teesside University | 1 |  |  |  |  |  |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  |  |  |  |  |  |
| 67 | England | The Open University |  |  |  |  |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen | 1 |  |  |  |  |  |  |  |  |
| 69 | England | University College Birmingham |  |  |  |  |  |  |  |  | 1 |
| 70 | Scotland | University of Aberdeen | 1 |  | 1 |  |  |  |  |  |  |
| 71 | England | University of Bath |  |  |  |  |  |  |  |  |  |
| 72 | England | University of Bedfordshire |  |  | 1 |  |  | 1 |  | 1 | 1 |
| 73 | England | University of Birmingham | 1 |  | 1 |  |  |  |  |  |  |
| 74 | England | University of Bolton |  |  |  |  |  |  |  |  |  |
| 75 | England | University of Bradford | 1 | 1 | 1 |  |  | 1 | 1 |  |  |
| 76 | England | University of Brighton | 1 |  | 1 |  |  |  |  |  |  |
| 77 | England | University of Bristol |  |  | 1 |  | 1 | 1 | 1 | 1 |  |
| 78 | England | University of Central Lancashire, Preston and Burnley |  |  | 1 |  |  |  |  |  |  |
| 79 | England | University of Chester | 1 |  |  |  |  |  |  |  |  |
| 80 | England | University of Chichester |  |  |  |  |  |  |  |  |  |
| 81 | England | University of Cumbria |  |  |  |  |  |  |  |  |  |
| 82 | England | University of Derby |  |  |  |  |  |  |  |  |  |
| 83 | Scotland | University of Dundee | 1 |  | 1 |  |  |  |  | 1 |  |
| 84 | England | University of East Anglia | 1 |  |  |  |  |  |  |  |  |
| 85 | England | University of East London |  |  | 1 |  |  |  |  | 1 |  |
| 86 | Scotland | University of Edinburgh |  |  | 1 | 1 |  | 1 | 1 | 1 |  |
| 87 | England | University of Essex |  |  |  |  |  |  |  |  |  |
| 88 | England | University of Exeter |  |  | 1 | 1 | 1 |  |  |  |  |
| 89 | Scotland | University of Glasgow | 1 |  | 1 |  |  |  |  |  |  |
| 90 | England | University of Gloucestershire |  |  | 1 | 1 |  | 1 | 1 | 1 | 1 |
| 91 | England | University of Greenwich | 1 |  | 1 |  |  |  |  | 1 | 1 |
| 92 | England | University of Hertfordshire | 1 |  |  |  |  |  |  |  |  |
| 93 | England | University of Hull | 1 |  | 1 |  | 1 | 1 | 1 |  |  |
| 94 | England | University of Kent | 1 |  |  |  |  |  |  |  |  |
| 95 | England | University of Leeds | 1 |  |  |  |  |  |  |  |  |
| 96 | England | University of Leicester | 1 |  |  |  |  |  |  |  |  |
| 97 | England | University of Lincoln | 1 |  | 1 |  |  |  | 1 |  |  |
| 98 | England | University of London | 1 |  | 1 |  |  |  |  |  |  |
| 99 | England | University of Manchester | 1 | 1 |  | 1 |  |  | 1 |  | 1 |
| 100 | England | University of Northampton |  |  |  |  |  |  |  |  |  |
| 101 | England | University of Nottingham | 1 | 1 | 1 | 1 |  | 1 | 1 |  | 1 |
| 102 | England | Oxford Brookes University |  |  |  |  |  |  |  |  |  |
| 103 | England | University of Plymouth |  |  | 1 | 1 |  |  |  |  |  |
| 104 | England | University of Portsmouth |  |  |  |  |  |  |  |  |  |
| 105 | England | University of Reading |  |  |  |  |  |  |  |  |  |
| 106 | England | University of Salford | 1 |  | 1 |  |  |  |  |  |  |
| 107 | England | University of Sheffield | 1 |  | 1 |  |  |  |  | 1 | 1 |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  |  |  |  |  |  |
| 110 | Scotland | University of St Andrews | 1 |  | 1 | 1 |  |  |  | 1 |  |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow | 1 |  | 1 |  |  |  |  |  |  |
| 113 | England | University of Sunderland | 1 |  | 1 |  |  |  |  |  |  |
| 114 | England | University of Surrey, Guildford | 1 |  | 1 |  |  |  |  | 1 |  |
| 115 | England | University of Sussex | 1 | 1 | 1 |  |  |  |  |  |  |
| 116 | England | University of the Arts London | 1 |  | 1 |  |  |  |  |  |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  |  |  |  |  |  |  |  |  |
| 118 | England | University of the West of England, Bristol | 1 |  |  |  |  |  |  |  | 1 |
| 119 | Scotland | University of the West of Scotland, | 1 |  |  |  |  |  |  |  | 1 |
| 120 | Northern Ireland | University of Ulster | 1 |  |  |  |  |  |  |  |  |
| 121 | Wales | University of Wales, Trinity Saint David |  |  |  |  |  |  |  | 1 |  |
| 122 | England | University of Warwick | 1 |  | 1 |  |  |  |  |  | 1 |
| 123 | England | University of West London | 1 |  |  |  |  |  |  |  |  |
| 124 | England | University of Winchester | 1 | 1 | 1 |  |  | 1 |  |  |  |
| 125 | England | University of Wolverhampton | 1 | 1 | 1 | 1 |  | 1 | 1 |  |  |
| 126 | England | University of Worcester |  |  | 1 | 1 |  |  |  |  | 1 |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |  |
| 128 | England | York St John University | 1 |  | 1 | 1 |  | 1 |  | 1 | 1 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Location | University | cultural /behavioural change | student / staff enabled to socially/economically contribute to societies | community Engagement | Innovation/enterprise core to staff/in recruitment / performance management- incentive-reward | Education for sustainability/ESD | Explicit in KPI/Target | Environmental/sustainability included in course design & delivery/initial approval/revalidation/ review criteria approval process | environmental sustainability education |
| 1 | Scotland | Abertay University |  |  |  |  |  |  |  |  |
| 2 | Wales | Aberystwyth University |  |  |  |  | 1 |  |  |  |
| 3 | England | Anglia Ruskin University |  |  |  |  | 1 | 1 |  |  |
| 4 | England | Aston University, Birmingham |  |  |  |  | 1 |  |  |  |
| 5 | Wales | Bangor University | 1 |  | 1 | 1 | 1 |  |  |  |
| 6 | England | Bath Spa University |  |  |  |  |  |  |  | 1 |
| 7 | England | Birmingham City University |  |  |  |  |  |  |  |  |
| 8 | England | Bishop Grosseteste University |  |  |  |  |  |  |  |  |
| 9 | England | Bournemouth University |  |  |  |  |  |  |  |  |
| 10 | England | Brunel University |  |  |  |  |  |  |  |  |
| 11 | England | Buckinghamshire New University, High Wycombe |  |  |  |  | 1 |  |  |  |
| 12 | England | Canterbury Christ Church University |  |  | 1 |  |  |  |  |  |
| 13 | Wales | Cardiff Metropolitan University (UWIC) |  |  |  |  | 1 |  |  |  |
| 14 | Wales | Cardiff University |  |  | 1 |  |  |  |  |  |
| 15 | England | City University London |  |  |  |  |  |  |  |  |
| 16 | England | Coventry University |  |  |  |  |  |  |  |  |
| 17 | England | Cranfield University |  |  |  |  |  |  |  |  |
| 18 | England | De Montfort University, Leicester |  |  |  |  | 1 | 1 | 1 | 1 |
| 19 | England | Durham University |  |  |  |  |  |  |  |  |
| 20 | England | Edge Hill University |  |  | 1 |  |  |  |  |  |
| 21 | Scotland | Edinburgh Napier University |  |  |  |  |  |  |  |  |
| 22 | England | Falmouth University |  |  |  |  |  |  |  |  |
| 23 | Scotland | Glasgow Caledonian University |  |  |  |  |  |  |  |  |
| 24 | Wales | Glyndŵr University |  |  | 1 |  |  |  |  |  |
| 25 | England | Goldsmiths University of London |  |  | 1 | 1 |  |  |  |  |
| 26 | England | Harper Adams University |  |  | 1 |  |  |  |  |  |
| 27 | Scotland | Heriot-Watt University |  |  |  |  |  |  |  |  |
| 28 | England | Imperial College London |  |  | 1 |  |  |  |  |  |
| 29 | England | Keele University |  |  | 1 |  |  |  |  | 1 |
| 30 | England | King's College London |  |  |  |  |  |  |  |  |
| 31 | England | Lancaster University |  |  |  |  |  |  |  |  |
| 32 | England | Leeds Metropolitan University |  |  | 1 | 1 |  |  |  |  |
| 33 | England | Leeds Trinity University |  |  |  | 1 |  |  |  |  |
| 34 | England | Liverpool Hope University |  |  |  |  |  |  |  |  |
| 35 | England | Liverpool John Moores University |  |  |  |  |  |  |  |  |
| 36 | England | London Metropolitan University |  |  |  | 1 |  |  |  |  |
| 37 | England | London School of Economics and Political Science (LSE) |  |  |  |  |  |  |  |  |
| 38 | England | London School of Hygiene and Tropical Medicine |  |  |  |  |  |  |  |  |
| 39 | England | London South Bank University |  |  |  |  |  |  |  |  |
| 40 | England | Loughborough University |  |  |  | 1 |  |  |  |  |
| 41 | England | Manchester Metropolitan University |  |  |  |  | 1 |  |  | 1 |
| 42 | England | Middlesex University, London |  |  |  |  |  |  |  |  |
| 43 | England | Newman University |  |  |  |  |  |  |  |  |
| 44 | England | Northumbria University |  |  |  |  |  |  |  |  |
| 45 | England | Norwich University of the Arts |  |  |  |  |  |  |  |  |
| 46 | England | Nottingham Trent University |  |  |  | 1 |  |  |  | 1 |
| 47 | England | University of Oxford |  |  |  |  |  |  |  |  |
| 48 | Scotland | Queen Margaret University, Edinburgh |  |  |  |  |  |  |  |  |
| 49 | England | Queen Mary, University of London |  |  |  |  | 1 |  |  |  |
| 50 | Northern Ireland | Queen's University Belfast |  |  |  |  |  |  |  |  |
| 51 | England | Roehampton University, London |  |  |  |  |  |  |  |  |
| 52 | England | Royal Academy of Music |  |  |  |  |  |  |  |  |
| 53 | England | Royal Central School of Speech and Drama |  |  |  |  |  |  |  |  |
| 54 | England | Royal College of Art, London |  |  |  |  |  |  |  |  |
| 55 | England | Royal College of Music |  |  |  |  |  |  |  |  |
| 56 | England | Royal Holloway, University of London |  |  |  |  |  |  |  |  |
| 57 | England | Royal Veterinary College |  |  |  |  |  |  |  |  |
| 58 | England | Sheffield Hallam University |  |  |  |  |  |  |  |  |
| 59 | England | Southampton Solent University |  |  |  |  |  |  |  |  |
| 60 | England | St George's, University of London |  |  |  |  |  |  |  |  |
| 61 | England | St Mary's University, Twickenham London |  | 1 |  |  |  |  |  |  |
| 62 | England | Staffordshire University |  |  |  |  |  |  |  |  |
| 63 | Northern Ireland | Stranmillis University College |  |  |  |  |  |  |  |  |
| 64 | Wales | Swansea University |  |  |  |  |  |  |  |  |
| 65 | England | Teesside University |  | 1 |  |  |  |  |  |  |
| 66 | England | The Arts University Bournemouth |  |  |  |  |  |  |  |  |
| 67 | England | The Open University |  |  |  |  |  |  |  |  |
| 68 | Scotland | The Robert Gordon University, Aberdeen |  | 1 |  |  |  |  |  |  |
| 69 | England | University College Birmingham |  |  |  |  |  |  |  |  |
| 70 | Scotland | University of Aberdeen |  |  |  |  |  |  |  |  |
| 71 | England | University of Bath |  |  |  |  |  |  |  |  |
| 72 | England | University of Bedfordshire |  |  |  | 1 | 1 | 1 |  |  |
| 73 | England | University of Birmingham |  | 1 |  |  |  |  |  |  |
| 74 | England | University of Bolton |  |  |  |  |  |  |  |  |
| 75 | England | University of Bradford |  |  |  |  |  |  |  |  |
| 76 | England | University of Brighton |  | 1 |  |  | 1 |  |  |  |
| 77 | England | University of Bristol |  | 1 | 1 |  | 1 |  |  | 1 |
| 78 | England | University of Central Lancashire, Preston and Burnley |  |  |  |  | 1 |  |  |  |
| 79 | England | University of Chester |  |  |  |  |  |  |  |  |
| 80 | England | University of Chichester |  |  |  |  |  |  |  |  |
| 81 | England | University of Cumbria |  |  |  |  |  |  |  |  |
| 82 | England | University of Derby |  |  |  |  |  |  |  |  |
| 83 | Scotland | University of Dundee |  |  |  | 1 | 1 |  |  |  |
| 84 | England | University of East Anglia |  |  | 1 |  |  |  |  |  |
| 85 | England | University of East London | 1 |  |  |  |  |  |  |  |
| 86 | Scotland | University of Edinburgh |  |  |  |  | 1 |  |  |  |
| 87 | England | University of Essex |  | 1 |  |  |  |  |  |  |
| 88 | England | University of Exeter |  |  |  | 1 | 1 |  |  |  |
| 89 | Scotland | University of Glasgow |  |  |  |  |  |  |  |  |
| 90 | England | University of Gloucestershire | 1 |  |  |  | 1 |  | 1 |  |
| 91 | England | University of Greenwich |  |  |  |  | 1 |  |  |  |
| 92 | England | University of Hertfordshire |  |  |  |  |  |  |  |  |
| 93 | England | University of Hull |  | 1 |  |  |  |  |  |  |
| 94 | England | University of Kent |  |  |  |  |  |  |  |  |
| 95 | England | University of Leeds |  |  |  | 1 |  |  |  |  |
| 96 | England | University of Leicester |  |  |  | 1 |  |  |  |  |
| 97 | England | University of Lincoln |  | 1 |  |  |  |  |  |  |
| 98 | England | University of London |  |  |  |  |  |  |  |  |
| 99 | England | University of Manchester |  | 1 | 1 |  |  |  |  |  |
| 100 | England | University of Northampton |  |  |  |  |  |  |  |  |
| 101 | England | University of Nottingham | 1 |  |  |  | 1 |  |  | 1 |
| 102 | England | Oxford Brookes University |  |  |  |  |  |  |  |  |
| 103 | England | University of Plymouth |  |  |  |  | 1 |  |  |  |
| 104 | England | University of Portsmouth |  |  |  |  |  |  |  |  |
| 105 | England | University of Reading |  |  |  |  |  |  |  |  |
| 106 | England | University of Salford |  |  |  |  | 1 |  |  |  |
| 107 | England | University of Sheffield |  | 1 |  |  |  |  |  |  |
| 108 | Wales | University of South Wales |  |  |  |  |  |  |  |  |
| 109 | England | University of Southampton |  |  |  |  |  |  |  |  |
| 110 | Scotland | University of St Andrews |  | 1 |  |  | 1 |  |  |  |
| 111 | Scotland | University of Stirling |  |  |  |  |  |  |  |  |
| 112 | Scotland | University of Strathclyde, Glasgow |  |  |  |  |  |  |  |  |
| 113 | England | University of Sunderland |  |  |  |  |  |  |  |  |
| 114 | England | University of Surrey, Guildford |  | 1 |  |  |  |  |  |  |
| 115 | England | University of Sussex |  | 1 |  |  |  |  |  |  |
| 116 | England | University of the Arts London |  |  |  |  |  |  |  |  |
| 117 | Scotland | University of the Highlands & Islands, Inverness |  |  |  |  |  |  |  |  |
| 118 | England | University of the West of England, Bristol |  | 1 |  |  | 1 |  |  |  |
| 119 | Scotland | University of the West of Scotland, |  |  |  | 1 |  |  |  |  |
| 120 | Northern Ireland | University of Ulster |  |  |  |  |  |  |  |  |
| 121 | Wales | University of Wales, Trinity Saint David |  |  | 1 |  | 1 | 1 |  |  |
| 122 | England | University of Warwick | 1 |  |  |  | 1 |  |  |  |
| 123 | England | University of West London |  |  |  |  |  |  |  |  |
| 124 | England | University of Winchester |  |  |  |  |  |  |  |  |
| 125 | England | University of Wolverhampton |  |  |  |  |  |  |  |  |
| 126 | England | University of Worcester | 1 |  |  |  | 1 |  |  | 1 |
| 127 | England | Warburg Institute |  |  |  |  |  |  |  |  |
| 128 | England | York St John University |  |  |  | 1 | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

**Appendix 7 – First c****ontact email: interviews**

Dear [insert name],

I am an Education for Sustainability (EfS) PhD. researcher at the Global Sustainability Institute, Anglia Ruskin University, Cambridge. I am studying a key issue which was raised in UNESCO’s end of the Decade of Education for Sustainable Development (DESD) report (2014), written in collaboration with ESD practitioners. Specifically, the issue is that there tends to be little or no behaviour changes generally observed amongst students, even amongst those with pro-sustainability attitudes.

I am currently interviewing EfS practitioners, as they are in an ideal position to give their perception on this issue and what they think could be an effective way to overcome it. The relatively informal interview will likely cover, for instance, their observations/experiences (if any), challenges and ideas around best practice. As an EfS practitioner, I will be most grateful if you would assist in this study by taking part in a one-off Skype or telephone interview, lasting about 30mins.

Is this something that you would be interested in doing? If yes, I would be grateful if you could respond with your availability. I can also happily send you further details, should you wish.

You may also be interested to know that this study has received ethics approval by the Psychology Departmental Research Ethics Panel (DREP) and ratified by the Faculty Research Ethics Panel under the terms of Anglia Ruskin University’s Policy and Code of Practice for the Conduct of Research with Human Participants.

Should you have any queries about participating in this study, please do not hesitate to let me know.

Looking forward to hearing from you.

Kind Regards

[insert name]

1. “The University” includes Anglia Ruskin University and its Associate Colleges. [↑](#footnote-ref-2)