



Exploring the current position of ESD in UK Higher Education Institutions

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Abstract

The purpose of this paper is to consider the position of education for sustainable development in the UK Higher Education (HE) sector with respect to the Quality Assurance Agency and Higher Education Academy Guidance for ESD. By means of a mixed-method approach underpinned by a concurrent triangulation design strategy, this research presents evidence from an online questionnaire survey and in-depth semi-structured interviews. Insights are presented from case studies of a group of UK HEIs which have made significant progress in embedding ESD in the curricula. Central to this study is an exploration of the ESD integration process of this group including a description of the approaches to integration, the challenges faced and overcome, and the critical success factors. It examines the role of a guidance instrument in simplifying and accelerating the ESD curricular integration process. The results of the study show that there is a multitude of integration approaches applied varying in their emphasis. The main challenge HEIs face is engaging staff that may question the relevance of the ESD concept, and that lack an understanding regarding its implications for their discipline. Critical success factors identified are: institution-wide people support, high-level institutional support, and funding. The QAA and HEA guidance has successfully supported HEIs in developing their ESD commitments. The results of this research can support HEIs in developing their own approach to ESD as they learn from similar UK higher education providers, particularly with respect to overcoming barriers and enhancing critical success factors to ESD curricular integration.

Keywords: Education for Sustainable Development, Higher Education, QAA and HEA Guidance, Curriculum, Integration

Introduction

The higher education sector is an increasingly competitive global marketplace that focusses on recruiting prospective staff and students to maximise revenue by pro-actively marketing the institution (Pucciarelli and Kaplan, 2016; Hannover Research, 2014). Universities and colleges attract prospective students and staff by highlighting those characteristic features that give them a competitive advantage i.e. their strengths, ambitions, values and quality of the student experience (Chapleo, Carrillo Durán, and Castillo Díaz, 2011), and by adjusting the marketing strategy to tailor to the prospective students' and employees demands (Brown, 2011). In recent years, sustainability has become one of the expectations of current and prospective students. According to the sixth annual NUS Sustainability Skills survey, increasingly UK students expect their institution to demonstrate the sustainability of their operations and to provide education for sustainable development (NUS, 2016). In addition, studies suggest that an employee's choice of prospective employer is influenced by their perception of an organisation's sustainability impact and corporate social responsibility efforts (Bustamente and Brenninger, 2013; see Kim and Park, 2011; Lin *et al.*, 2012). With the annual publication of the People & Planet university league table, which ranks UK universities and colleges on environmental and ethical performance, the pressure to be considered an environmentally-sound institution has increased (People and Planet, n.d.). It can be assumed that these trends have made it important for higher education institutions to demonstrate and showcase their sustainability credentials. This paper explores the extent to which this expectation is valid for the integration of sustainability in curricula.

ESD growth and stagnation

Education has a significant role to play in guiding society towards a sustainable future by shaping pupils and students into adults who will be conscious of their stance within the planet's system, take responsibility for their lifestyles, and attempt to design society in a way that it will nurture a healthy human-nature relationship. It can be argued that the current education system is failing to prepare students for the intricacies and challenges of the 21st century and is in fact creating graduates who go into society living and promoting highly unsustainable ways of living (Everett, 2008; Armstrong, 2011; Mochizuki and Fadeeva, 2010). Higher education institutions have addressed this issue, which is reflected in the growing number of institutions that are integrating sustainability into their institutional strategies, are signing declarations and statements of commitment to ESD, put effort into reducing the negative impacts of the estate, and offer sustainability courses and degrees (Wals, 2014; Karatzoglou, 2013; Ramos *et al.*, 2015). Whilst this is welcomed, the number of HEIs integrating ESD in the curricula is, however, limited (Lozano *et al.*, 2013; Yarime and Tanaka, 2012; Tilbury, 2011, Longhurst *et al.*, 2015; Tierney *et al.*, 2015; Wyness *et al.*, 2015). For the vast majority of HEIs their efforts start and finish with enhancing the sustainability of the estate with little or no attempt to influence the curriculum. Yet the largest sustainability impact an HEI will have is its graduates who typically will have some 60 years of life post-graduation. The sustainability knowledge, skills and attributes developed at university will influence the graduate's lifetime sustainability impacts.

This inability or reluctance of HEIs to enhance the sustainability of the curriculum could be attributed to different factors of which one is a changing landscape of policy drivers and a decline in sector support. The UK government and higher education bodies have been instrumental in supporting the integration of sustainability into the higher education sector through policy emphasis on ESD and through setting up sustainability initiatives i.e. the Students Green Fund encouraging students' unions to become active in sustainability activities supported by HEFCE, the Green Academy Programme set up by the Higher Education Academy to encourage HEIs to develop student engagement, curricula and pedagogic innovations, and support for institutional engagement in sustainability of the campus by the funding councils for England, Scotland and Wales (UK National Commission for UNESCO, 2013; HEFCE, 2013; HEA, n.d.). In the past years, these stakeholders have been struggling to deliver support in the same capacity, having to operate in a resource-constrained environment. There has not been a third round of the Green Academy Programme and even though HEFCE published the 2014 sustainability framework, it appears to have stepped down from being a strong leader in ESD integration (HEFCE, 2014).

In addition to the withdrawal of support from key stakeholders, there are a number of barriers to embedding ESD in higher education. Tilbury (2011) argues, the systemic complexity regarding ESD integration '*challenges university silos, corridors of power, and criteria and processes of decision-making*'. Gale (2015) adds that there are four impediments to embedding ESD:

1. *Contestation over sustainability*; which challenges universities to seek a coherent approach to operationalisation
2. *Intra- institutional fragmentation*; which has made interdisciplinarity difficult
3. *Academic capitalism*; where higher education is refocussed to drive economic competitiveness and capital accumulation through competitive funding models for student recruitment, quality assurance frameworks to underpin league tables, and research priorities which serve the neoliberal agenda

4. *Cognitive predispositions*; where institutions prompt staff to focus on economic and political interests, which leads them to be less inclined to think critically and question the unsustainable economic system

Thomas (2004) provides a more detailed analysis of the barriers to change, which are presented in figure 1. While some of the barriers might be less challenging today, the majority are issues that the literature and surveys highlight as problematic nationally and internationally.

List of barriers to curriculum change
Sustainability is too abstract or too broad
Sustainability lacks a scientific basis
Misconceptions related to sustainability
Institutions have no staff to work on sustainability
A lack of incentives and information on environmental issues
A lack of financial and organisational resources
A lack of staff training and development support
A lack of expertise and tradition
A lack of interest and commitment amongst administrators, students and staff
A clashing with the predominant university culture and organisational structures
Benefits of change are unclear or invisible

Figure 1: List of barriers to embedding ESD

Thomas (2004) has also identified barriers that relate to the academic specifically. First, academics may lack knowledge about the environment, about where and how to obtain relevant information, and how to link it to their discipline. Additionally, they tend to feel uncomfortable working across disciplines, feel unsupported and unrewarded, express concerns about the appropriateness and complexity of integrating –what is in their perception– a purely environmental understanding in existing programmes, and feel overwhelmed by the increasing calls on their time for administrative, research and discipline related matters.

The above-mentioned barriers have serious implications on the integration of ESD in the curricula of higher education institutions. Nonetheless, there are universities and colleges that can demonstrate their ability to implement sustainability across the institution. In which ways did they adopt and implement ESD? Which factors have been key in driving change? Sterling and Thomas (2006) suggest that there are four levels and types of responses to the adoption and implementation of ESD. The first response is denial, which implies there is no change. The second response is a ‘bolt-on’ approach also called ‘*education about sustainability*’, which reflects the change in the content of education. The third response is a ‘build-in’ approach named ‘*education for sustainability*’, which focuses on changing pedagogy and learning vision (Hofman, 2012). Curriculum redesign is the final implementation response. Lozano (2010) has found four approaches that would fit within Sterling and Thomas’ bolt-on approach; (1) limited coverage in an existing module, (2) specific sustainable development modules, (3) discipline-oriented modules with integrated sustainability topics, and (4) sustainable development as an optional specialisation within courses. Similarly, Barth and Timm (2011) highlighted four forms of integration, namely; the inclusion of sustainability-related topics in conventional learning settings, the adoption of new learning approaches, the development of independent courses, and integration in existing

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3 curricula. Others have attempted to explain what distinguishes the successful institutions from
4 those that have to deal with resistance. Cotton (2006) remarks that staff support and uptake is
5 essential for the implementation of curriculum guidance. According to De La Harpe and
6 Thomas (2009), the critical success factors for introducing ESD are: developing guiding
7 policy, engaging stakeholders, having a support system for staff, and ensuring ongoing
8 communication. They argue that interaction, communication and leadership are essential
9 preconditions.
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12 Considering both the barriers that HEIs face and the driving factors that could help facilitate
13 the transition, to what extent have UK higher education providers integrated ESD into
14 curricula? Fiselier and Longhurst (in press) examined the representation of ESD in HEI web
15 environments by exploring the presence, extent or absence of reference to the guidance on
16 ESD published by the Quality Assurance Agency for Higher Education (QAA) and the Higher
17 Education Academy (HEA). A systematic web-based analysis was performed on the websites
18 of 139 higher education institutions. Of these, 120 institutions provided information about
19 estate sustainability, 82 provided general information on ESD, whilst only 16 institutions
20 reported about their use of the QAA and HEA guidance for ESD. This study set the stage for
21 researching the extent to which sector wide interventions, i.e. the guidance, are effective in
22 supporting and possibly driving the integration of ESD in curricula across universities and
23 colleges, and indeed in finding out what is required to make this change happen.
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25 The purpose of the QAA and HEA guidance for ESD is to help higher education institutions
26 with training sustainability literate graduates to become environmentally and ethically
27 responsible individuals. The guidance supports educators in embedding ESD in curricula in
28 order to enhance knowledge, understanding and awareness of sustainable development among
29 students by addressing four core themes (QAA and HEA, 2014):
30

- 31 •global citizenship,
 - 32 •environmental stewardship,
 - 33 •future thinking,
 - 34 •social justice, ethics & well-being
- 35

36 This paper extends beyond the digital realm and presents research on current practice at UK
37 higher education institutions. It explores the distinguishing features of 16 institutions, which
38 have made significant progress in embedding ESD within curricula, from the rest and by
39 doing so identifying the challenges HEIs might face and identifying the factors which
40 encourage institutions to integrate ESD into their educational offer.
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43 **Methods**

44 The approach used for this research is a mixed-method approach underpinned by the
45 philosophical worldview pragmatism. Applying a pragmatist position involves emphasising
46 the research problem by using pluralistic approaches to provide the best solution to the
47 problem and focusses on application, instead of methods (Creswell, 2014).
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49 The mixed method approach comprises of both quantitative and qualitative methods, which
50 are a structured online questionnaire survey, and semi-structured interviews. The quantitative
51 method was aimed at providing a sectoral analysis of the UK higher education sector, whilst
52 the qualitative method was deployed for a more in-depth investigation of a small sample of
53 HEIs. More specifically this study has used the mixed method design strategy: concurrent
54 triangulation. The design strategy is characterised by application of quantitative and
55 qualitative methods to collect data simultaneously. The motivation for using this strategy is to
56 be able to address the research questions through verification and cross-validation of the
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3 results of two datasets (Mengshoel, 2012).

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5 The online survey questions were created to provide insight on the adoption and
6 implementation of the QAA and HEA guidance and ESD more broadly, and to identify
7 factors that could enhance or undermine adoption and implementation. Questions about
8 embedding in policy and practice were incorporated. Additionally, care was taken to follow
9 the guidance document in highlighting the four core themes and the teaching approaches
10 (QAA and HEA, 2014). For reference see Figure 2 below. A pilot test was undertaken to
11 ensure that any ambiguity in the questions could be rectified. The sample population was
12 identified from the recognised bodies list by Gov.uk, which includes 159 higher learning
13 institutions that can award degrees. The institutional websites of all HEIs have been reviewed.
14 A small number of highly specialised institutions (e.g. Music Conservatoires) provided little
15 or no SD or ESD information on the institution's website and consequently were removed
16 from the study population. Another 31 institutions were disregarded, because of missing and
17 incorrect contact details. The questionnaire was distributed by email to the deputy-vice-
18 chancellor academic or the pro-vice-chancellor teaching and learning of 108 institutions with
19 the expectation that the senior staff recipient would respond. The overall response rate was
20 17% indicating, amongst other things, that the expectation of a widespread response from
21 senior staff was not forthcoming. It is likely that because of workload issues the request was
22 forwarded to another party or the request resided unanswered in an inbox.
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26 For more in-depth research semi-structured interviews were conducted with representatives of
27 a selection of six higher education providers; Abertay University, Keele University, Plymouth
28 University, the University of Sheffield, the University of Southampton, and the University of
29 Worcester. The aim was to select cases in which progress with integrating ESD had been
30 made and whose experiences in overcoming institutional barriers might be useful examples
31 for other to consider. Institutions that contributed to the guidance document were selected to
32 be part of the group of six HEIs in order to explore the effect, if any, on ESD integration by
33 virtue of participation in the drafting of the guidance document. The selection process was as
34 follows: an assessment of the 139 institutional websites with the purpose of finding sector
35 leading practice HEIs. From the best practice HEIs, an initial selection of 17 institutions was
36 made to which invitations were sent, of which seven universities contributed to the QAA and
37 HEA guidance document. The final selection comprised of those institutions that responded to
38 the invitation. The interview topics covered institutional engagement with the guidance, the
39 motivations and benefits of usage, driving factors and barriers, staff and student engagement,
40 further steps for guidance use, and ESD integration more broadly. Those institutions, which
41 had contributed to the guidance were asked whether the involvement could have had an
42 influence on the extent to which the guidance was used. The interviews were conducted via
43 telephone over a course of three weeks. The duration of the interviews was less than an hour.
44 The six interviews were recorded and have been transcribed verbatim.

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46 The questionnaire responses have been synthesised and clustered according to questionnaire
47 themes. A distinction was made between QAA and HEA guidance and ESD responses.
48 A grounded theory approach was chosen for the analysis of the interview transcripts as it is a
49 method that "*enables the identification and the description of phenomena, their main*
50 *attributes, and the core, social or social psychological process....*" and "*....provides us with*
51 *the tools to synthesise these data, develop concepts, and midrange theories that remain linked*
52 *to these data....*" (Morse et al., 2016).
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56 Ethical approval has been granted by UWE's Faculty Research Ethics Committee (see
57 endnote for details).
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- 1: Was the institution aware of the QAA and HEA Guidance before taking part in this study?
 2: Has the institution made use of the QAA and HEA Guidance?
 3: To what extent has the institution embedded the QAA and HEA Graduate Learning Outcomes in the curricula? Please select all that apply. The institution has:

- embedded QAA/HEA outcomes in (an) existing course(s)
 used QAA/HEA outcomes to create (a) new sustainability module(s)
 used QAA/HEA outcomes to create (a) new sustainability course(s)
 not used QAA/HEA outcomes
 other

- 4: Has the institution used the QAA and HEA Guidance for any of the options described above? Please select one of the options below.

- Yes, the institution has appropriated all the graduate outcomes
 Yes, the institution has selected the most appropriate graduate outcomes
 Yes, the institution has adapted the graduate outcomes to fit the (inter)disciplinary context
 No, the institution has created sustainability graduate outcomes of its own
 No, the institution has used another framework/guidance
 No, the institution does not have sustainability graduate outcomes
 No, but the university/college is planning on using the QAA and HEA Guidance

5. Please indicate which of the following options has been informed by the QAA and HEA Guidance and/or ESD (please select all that apply):

	QAA/HEA Guidance	ESD
Vision statement	<input type="checkbox"/>	<input type="checkbox"/>
Strategic Plan	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Strategy	<input type="checkbox"/>	<input type="checkbox"/>
Learning and Teaching Strategy	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Action Plan	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Policy	<input type="checkbox"/>	<input type="checkbox"/>
Annual Report	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Report	<input type="checkbox"/>	<input type="checkbox"/>

6. The QAA and HEA Guidance has outlined four core themes on which sustainability graduate learning outcomes should be based: (1) global citizenship, (2) environmental stewardship, (3) social justice, ethics and wellbeing, and (4) future-thinking. Please indicate to what extent the core themes are present in the graduate learning outcomes of the institution's degree programmes:

- In all degrees
 In most degrees
 In some degrees
 In none

7. Does the institution offer staff development sessions to build staff capacity and capability to integrate sustainability into the curricula?

Figure 2: Selection of online survey questions

Results

The questionnaire has been completed by 16 out of 108 institutions: Bucks New University, Cardiff Metropolitan University, University of Chester, University of East Anglia, London Institute for Banking and Finance (formerly known as ifs University College), Keele University, King's College London, Kingston University London, Manchester Metropolitan University, Northumbria University, Plymouth University, University of Portsmouth, University of Sheffield, and University of the West of England. Two institutions chose not to reveal their name. These institutions are referred to as Anonymous1 and Anonymous2. Plymouth University and the University of the West of England contributed to the QAA and HEA guidance. The results have been grouped into the following categories: awareness and use, adoption and implementation, policy integration, engagement, and staff support. The categories are guided by the QAA report structure, the literature review and a synthesis of the structures used by HEIs to present their web information. The results section has been divided in two sections; the first section will provide evidence on the QAA and HEA guidance being used by HEIs and the second section gives a broader view of sustainability and the curriculum, which goes back to the purpose of this paper to consider 'the position of education for sustainable development in the UK higher Education sector in particular relevance to the Quality Assurance Agency and Higher Education Academy Guidance for ESD'.

QAA and HEA guidance for ESD

Only one of the 16 institutions indicated that it was unaware of the QAA and HEA guidance prior to completion of the questionnaire. Thirteen institutions confirmed that they used the guidance of which five institutions used the document in its entire form, three adapted it to the institution's context, and five HEIs used elements of the document.

Adoption and implementation

Thirteen higher education providers state their definition of education for sustainable development to broadly align with the definition provided by the guidance. Interestingly two HEIs responded that the institution does not seek to define ESD. One institution uses the UNESCO definition as it provides a broader definition of ESD.

The institutions have also provided insights in the extent to which they have adopted the four core themes identified in the guidance (QAA and HEA, 2014). All higher education providers have adopted the themes. They vary in the extent to which the themes were adopted:

- six institutions adopted the themes in all degree programmes
- three institutions partially adopted them into relevant degree programmes
- seven institutions adopted them in some programme degrees

The six HEIs that integrated into all degrees are: Northumbria University, University of East Anglia, University of Portsmouth, London Institute for Banking & Finance, Anonymous1 and University of the West of England.

Ten institutions have adopted the graduate learning outcomes identified in the guidance by:

- incorporating each of the outcomes,
- selecting the most appropriate ones,
- adapting the guidance's graduate outcomes to fit the (inter)disciplinary context

From the six institutions, which did not adopt the graduate outcomes;

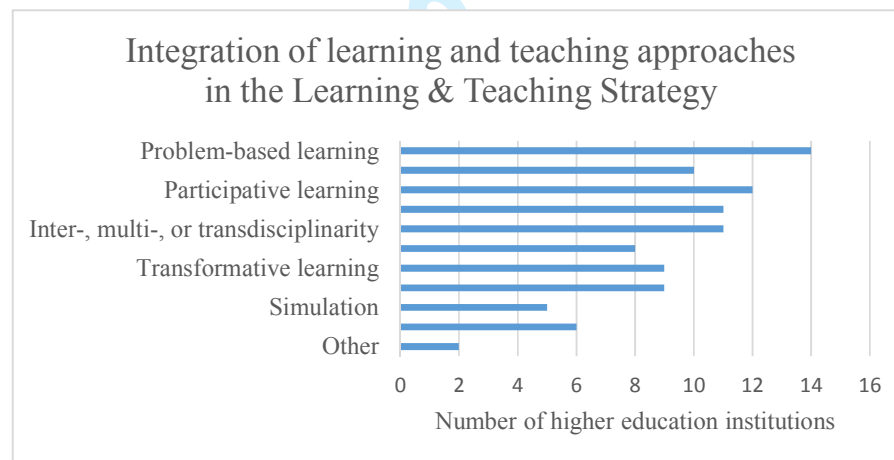
- three have created their own,
- one used another framework or guidance,
- one does not have sustainability graduate outcomes

The QAA and HEA graduate learning outcomes have been embedded in various ways:

- eight institutions embedded in (an) existing course(s),
- three used them for sustainability curriculum design,
- four institutions did not use the graduate outcomes
- four HEIs selected 'other' in the questionnaire

Other is specified by the HEIs as not being at that stage yet, using the outcomes for curriculum design and review, not knowing the graduate outcomes, and using multiple sources to define the graduate outcomes.

The bar chart in figure 3 illustrates the extent to which HEIs have included learning and teaching approaches from the QAA and HEA guidance, in the institutions' Learning and Teaching Strategy. Problem-based learning and participative learning feature the most in institutions' Learning and Teaching Strategy. Simulation and campus learning are amongst the least common approaches. From the 16 institutions the University of the West of England and Plymouth University have included all the approaches. Northumbria University, the University of Sheffield and Anonymous2 also scored high with 9 out of 10 approaches.



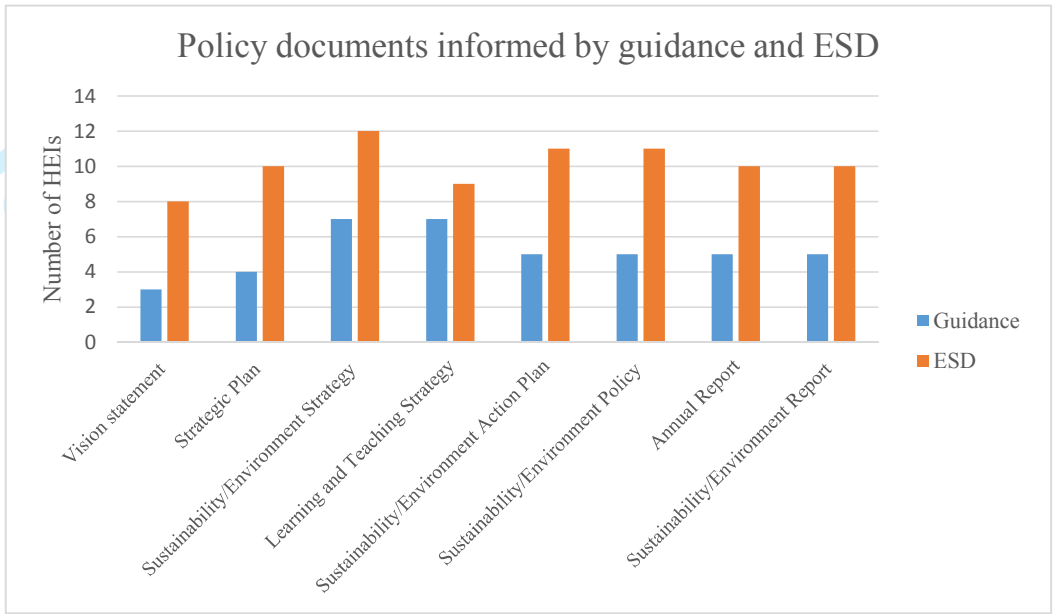


Figure 4: Policy integration QAA and HEA guidance and ESD ration

Figure 4 shows that the guidance and ESD have been used to inform a variety of policy documents. Most of the institutions have used the guidance to inform the Sustainability or Environment Strategy, and the Learning and Teaching Strategy. Only three HEIs reported their use of the guidance in the institutional vision statement.

Figure 3: Integration of learning and teaching approaches in Learning and Teaching Strategies

Engagement

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Policy
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3 Twelve out of sixteen institutions engaged their students and staff with the QAA and HEA
4 guidance in the following ways:

- 5 •Continued Professional Development activities
- 6 •educational committee discussions structured around the guidance
- 7 •a teaching toolkit as online resource for staff
- 8 •informing them about the institution's ESD approach via their website
- 9 •inviting staff to an ESD special interest group
- 10 •the Teaching and Learning Postgraduate Certificate
- 11 •organising workshops for students and staff
- 12 •a presentation at the Learning and Teaching Conference
- 13
- 14

15 **ESD integration**

16 *Curriculum integration*

17 From the 16 universities and colleges six have integrated ESD in all undergraduate and taught
18 postgraduate courses that the institution offers; Northumbria University, the University of
19 East Anglia, London Institute for Banking & Finance, Cardiff Metropolitan University,
20 Anonymous1 and the University of the West of England. Additionally, seven institutions have
21 embedded ESD in courses designed around sustainability. Furthermore, five institutions offer
22 a few courses in which ESD is embedded and five comment that ESD is integrated in elective
23 modules. Finally, one institution created an institution-wide module that includes the
24 principles of sustainable development.
25
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27 *Policy integration*

28 The issues of policy integration are similar to those identified above for the guidance, namely:
29 there are great inter-institutional differences regarding the number of policy documents by
30 which ESD is informed. ESD has mainly informed the Sustainability or Environment
31 Strategy, the Sustainability or Environment Action Plan, and the Sustainability or
32 Environment Policy. Only 8 out of 16 institutions included ESD in the vision statement and
33 9 out of 16 included it in the Learning and Teaching Strategy.
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35 *Co- and extra-curricular activities*

36 The higher education providers stimulate students to engage with sustainability by organising
37 co- and extra-curricular activities, see figure 5. All institutions offer sustainability
38 volunteering opportunities and most universities and colleges engage students through
39 sustainability teams or societies and by offering dissertation and PhD opportunities.
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Three institutions created an online module and less than half of the group has organised sustainability debates. The 'other' category comprises of sustainability research groups and sustainability work placements opportunities. The survey results showed that the amount of activities offered per institution ranges from 2 to 12 with the majority offering between 9 and 12 co-and extra-curricular activities.

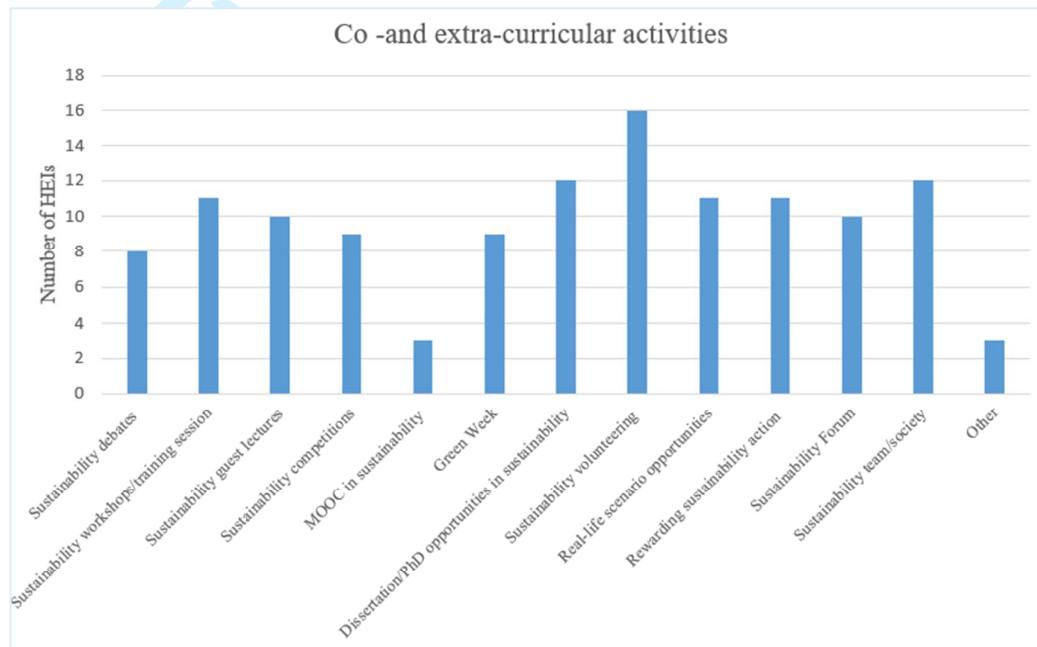


Figure 5: Informal education activities

Staff
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The majority of the institutions offer staff development sessions. Most HEIs provide workshops on ESD or Continued Professional Development workshop with an ESD focus. Alternative support is provided with online resources, a sustainability themed staff development day or sustainability symposium, and the appointment of a fulltime ESD assistant for staff development purposes.

Comparative assessment HEIs' ESD integration

In order to explore the differences in approaches and level of ESD integration, the 16 HEIs have been scored on the following nine criteria: ESD definition, four core themes, graduate attributes, teaching approaches, guidance policy integration, ESD policy integration, curricular integration, informal education, and staff support. These criteria are derived from the questionnaire survey questions and have been discussed in the results section above. Table 1 below presents the results of this assessment. It provides an overview of the advancement of ESD integration within each institution and offers a comparison. Next will be an explanation of how each criterion should be interpreted (for further reference see notes below the table).

•*Definition*: In the survey HEIs were asked whether their definition of ESD broadly aligned with the one in the QAA and HEA guidance for ESD. Those five institutions that answered

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3 'yes' were scored 2 points and the remaining three universities replying 'no' got a score of 1.

4 •*Four core themes*: The four core themes criterion refers to the extent to which each
5 institution has adopted the four core themes from the guidance –global citizenship,
6 environmental stewardship, future thinking, and social justice, ethics and well-being- into
7 curricula. Adoption in some degrees scored 1 point, mostly adopted scored 2 points and full
8 adoption scored 3 points.

9
10 •*Graduate attributes*: HEIs were also surveyed on the adoption of the QAA and HEA
11 graduate attributes. Having no ESD graduate attributes received the lowest score of 1.
12 Institutions that adapted the guidance's graduate attributes to fit the institutional context,
13 integrated them into (an) existing course(s) and/or indicated to have their own graduate
14 attributes, were scored 2. The last group of HEIs that were scored 3 used the guidance's
15 graduate attributes for curriculum design and/or delivery.

16 •*Learning & Teaching approaches*: the surveyed universities and colleges were scored
17 according to the extent to which they used the guidance's ESD learning and teaching
18 approaches. Score 1 was given to those which only used between 0-3 approaches, score 2 for
19 4-7 approaches and score 3 for applying 8-10 approaches.

20 •*Policy QAA & HEA and ESD*: in some cases the QAA and HEA guidance and/or ESD
21 informed the institutional policy documents i.e. the vision statement, the sustainability
22 strategy and the learning & teaching strategy. The lowest score 1 signified incorporation of
23 ESD or the guidance in a maximum of 2 documents. Those that had embedded in 3 to 5 policy
24 documents received a score of 2. Finally, the best scoring institutions were those that
25 incorporated ESD or the guidance in 6 to 8 policy documents.
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Table 1: Scores of ESD and guidance integration per HEI

Higher education institution	Definition	4 themes	Graduate Attributes	Learning & Teaching	Policy QAA/HEA	Policy ESD	ESD integration	Co -and extra-curricular	Staff support	Total score
Bucks New Uni.	2	1	2	1	1	2	2	1	2	12
Cardiff Metropolitan Uni.	2	2	3	1	1	2	3	2	2	16
Uni. of Chester	2	1	1	1	1	1	2	3	1	10
Uni. of East Anglia	2	3	3	3	1	3	3	3	2	21
London Inst. For Banking & Finance	2	3	2	2	2	2	3	3	2	19
Keele Uni.	2	2	2	1	1	3	2	3	2	16
King's College London	2	1	2	2	1	1	2	1	1	12
Kingston Uni. London	2	1	2	2	3	3	1	2	1	15
Manchester Metropolitan Uni.	2	1	2	2	3	3	2	3	2	17
Northumbria Uni.	2	3	2	3	3	2	3	2	1	19
Plymouth Uni.	2	1	3	3	3	3	2	3	2	20
Portsmouth Uni.	1	3	2	2	1	3	2	1	1	14
Uni. of Sheffield	1	1	2	3	1	1	1	3	2	13
Uni. of the West of England	2	3	3	3	2	3	3	3	2	22
Anonymous 1	1	3	3	3	1	3	3	3	2	20
Anonymous 2	2	2	2	1	3	1	2	1	2	13

•Definition: 1= no, 2= yes

•4 themes:

1=adoption in some degrees

2=adoption in most degrees

3=adoption in all degrees

•Graduate Attributes:

1=no ESD GAs

2=adapted GAs to fit institutional context/
integrated in (an) existing course(s)/own GAs

3=used GAs for curriculum design & delivery

•L&T: 1= 0-3 learning approaches

2= 4-7 learning approaches

3= 8-10 learning approaches

•Policy QAA/HEA and ESD:

1= 0-2 policy documents

2= 3-5 policy documents

3= 6-8 policy documents

•ESD integration:

1= specific sustainability courses/electives

2= few undergrad and/or postgrad courses

3= all undergrad and/or postgrad courses

•Co- and extra:

1= 0-4 activities

2= 5-8 activities

3= 9-12 activities

•Staff support:

1= no

2= yes

Semi-structured interviews

Representatives of the six higher education providers from across England, Scotland and Wales have been interviewed about the institution's use of the QAA and HEA guidance for ESD and the general integration of ESD across curricula. From the set of interviews a range of themes have emerged from which the similarities and differences between HEIs will be elaborated upon.

Guidance use

When analysing the use of the QAA and HEA guidance by the six HEIs it becomes apparent that there are two separate rationales behind it. One rationale is to support and enable the institution's own work and commitment to ESD and to help move the ESD agenda along. These HEIs seem to be embracing the document and using it where deemed most appropriate. The universities differ in the level of engagement with the guidance ranging from merely using the guidance to structure the process of integrating ESD in curricula to using it for virtually anything related to the curriculum i.e. using it as a reference point for curriculum design or the creation of institutional graduate attributes, to help create an ESD definition or framework, to run ESD workshops, and to help create materials. Some of the institutions also use the guidance and the 4 core themes to show staff that ESD is broader than just the environmental aspect and that most academics are already applying ESD principles in their teaching. This misinterpretation of the concept being merely an environmental matter has some significant implications on the engagement with ESD, which will be further discussed in the 'barriers' theme. Finally, one of the HEIs argues that the academics can be convinced about the relevance of embedding ESD in curricula by engaging them with the guidance as the guidance highlights that ESD is a sector-wide priority, which gives more authority to the institution's own ESD work.

The second rationale for using the ESD guidance document is to support staff with ESD related activities whenever they demand such support. For this group of institutions it appears as though there is a sense of independence where they have their own approach to embedding ESD in curricula and are less open to external input. Additionally, it was felt inappropriate by these HEIs to require staff to abide by a guidance document.

ESD adoption and/or implementation approach

As with the guidance use, there are two main approaches to embedding ESD in curricula. The first approach focusses on making sustainability and education for sustainable development core to the institution, rather than leaving it as a stand-alone additional subject that students can get involved with. People from within these universities have an expectation that ESD is embedded within all degree programmes as is specifically stated within the strategic plan. The second group of institutions adopts more of a laissez-faire approach. Institutions apply an integrated approach by making sustainable development part of their mission. However, they do not require incorporation of sustainability in each course recognising that disciplines have differing abilities to respond and academics may respond negatively to such demands. Staff are encouraged to engage with ESD in a manner appropriate to disciplinary or local requirements. Consequently, an HEI can claim sustainable development is part of the institutional mission whilst recognising that all disciplines and all students do not have the opportunity to engage with that aspect of the mission. However, one of the interviewees argues, even though commitment to ESD is not necessarily explicitly communicated, ESD is very much part of the institution's culture and ethos.

Drivers to ESD curricular integration

A set of factors have been identified, which have had a positive effect on the process of

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3 embedding education for sustainable development into curricula within the HEIs. There are
4 three direct drivers of ESD integration within the curriculum: support for ESD from people
5 across the institution, high level institutional support and funding. The most critical driver, as
6 argued by the institutional representatives, is people support.
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9 Having someone in a leadership position who is committed to promoting the ESD agenda is
10 deemed critical to the integration process, since this individual can influence the institutional
11 approach to ESD. According to the interviewees, the individual needs to be prepared to
12 navigate barriers, take advantage of opportunities, and needs to be able to relate to academics
13 and their pressures. Second, the HEIs have greatly benefitted from getting a critical mass of
14 staff on-board. In most institutions there is a core group of ESD champions who have a
15 special interest in sustainability and are actively engaging others to get involved. All
16 interviewees acknowledged the importance of staff engagement and stressed the need for
17 development opportunities to build understanding and capability to engage with ESD. The
18 manner in which the ESD incentive is communicated with staff is also an issue that requires
19 careful consideration. Interviewees reported that during conversations with academics about
20 the aim of ESD to create graduates with a particular skillset, they realise that the institution
21 has been doing that without knowing it to be ESD. Getting people to understand why ESD is
22 relevant and emphasising that it is nothing new, is therefore an important step in engaging
23 staff. Third, a student body interest in sustainability and the buy-in of senior-management in
24 ESD have also been argued by the institutions' representatives to be driving factors. It is
25 fundamental to the change process to get ESD support on every level within the institution;
26 from students, staff and senior-management.
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30 The second driver derived from the interview process is high level institutional support.
31 Incorporating ESD in institutional documents like the strategic plan will send a signal to staff
32 that the integration of ESD in curricula is taken seriously, which might prompt staff to notice
33 and act accordingly.
34 Finally, funding has been key for supporting and motivating institutions in embedding ESD
35 across the university.
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37 *Challenges*

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39 In their journey towards whole institutional ESD integration, the six HEIs have encountered
40 some interconnected challenges and dealt with those in different ways. What stood out from
41 the interviews is the challenge to engage staff and to persuade them to incorporate
42 sustainability in their degree programme. The staff initial reaction was to reject the notions of
43 sustainability and ESD. The institutions' representatives explain that academics misinterpret
44 ESD as they equate the concept to climate change and regard it to be solely environmentally
45 driven. They then fail to see the links with their own discipline and to understand why ESD is
46 relevant to it and to the overall development of the institution. They justify their reluctance to
47 participate in the integration process by arguing that they are too busy. Most institutions'
48 representatives observed that this is caused by a perception of ESD as 'just something else
49 that is forced upon' and a perceived threat to their own traditional discipline and autonomy.
50 As proposed by some HEIs, a discussion with staff about ESD could be opened up as a means
51 to emphasising that they are already working on ESD and highlighting how ESD links to their
52 particular discipline. However, they note that rarely are resources allocated within the
53 institutions to overcome this challenge, because of other higher priorities.
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55 The universities have approached this challenge in several ways. The first approach is to give
56 staff the time to recognise and acknowledge the relevance of embedding education for
57 sustainable development into curricula. The second approach is to refrain from labelling ESD.
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3 Since there is a lot of confusion around sustainability concepts it is deemed appropriate by
4 some HEIs representatives to follow a no-label policy. Institutions recognised the implication
5 of this approach, namely that the institution will be unable to demonstrate what it is offering
6 with regard to the sustainability curriculum making it unclear to students and to other key
7 stakeholders what to expect. In turn this might have an impact on student recruitment.

8
9 The third and final approach is to find mechanisms to convince senior-management to
10 increase support for efforts to integrate ESD into curricula. One of the interviewees suggests
11 institutions should collect data about the importance of the institution's sustainability offer to
12 students. Senior-management could be persuaded by the potential of selling a sustainability
13 image to prospective students.

14 15 *Contribution*

16 The institutions, which contributed to the QAA and HEA document, were asked whether the
17 involvement had an influence on the guidance use. The interviewees believe this to be true.
18 The institutions had an individual on the guidance group, who had a strong influence on the
19 extent to which the guidance was used by their institution. The individuals fulfilled leadership
20 positions and could therefore more easily introduce the guidance and support its
21 implementation.
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25 **Discussion**

26 Although a low questionnaire response rate has limited this study in its effort to generalise
27 results to the larger population, the insights from the results add value to the current
28 positioning of ESD in the UK higher education sector, in particular regarding the ways in
29 which a guidance instrument could support the integration of ESD in curricula. It should be
30 noted that those who responded deliberately chose to participate to share their ESD
31 achievements and their learning processes. The questionnaire was distributed to senior staff in
32 HEIs with an email address verified from the external web page of the HEI. Follow up
33 reminders were sent. Having ensured appropriate targeting of the communications it can be
34 surmised that the low response rate indicates one or more reasons for non-engagement such as
35 workload pressure at the time for receipt, lack of interest in the subject or that the message
36 was forwarded to another party who did not consider it a priority to respond.
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39 The UK has a relatively long engagement with the ideas of ESD. HEIs have developed under-
40 and postgraduate degree programmes and specific modules to address some or all of the
41 curriculum challenges posed by sustainable development. More recently some HEIs have
42 considered the position of sustainable development within the institutional mission stimulated
43 by internal recognition of the opportunity, in response to student concerns or positioning of
44 competitor institutions (Longhurst *et al*, 2015). Such institutions will walk a fine line between
45 'green wash' and being able to demonstrate prioritisation of actions and systemic engagement
46 with education for sustainable development. In 2014 the QAA and HEA published their
47 guidance on ESD. This was applicable to the whole sector but was deliberately framed as
48 guidance not as a mandatory requirement (QAA and HEA, 2014). An HEI or an individual
49 academic could respond to the guidance as their circumstances and inclinations allowed.
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52 Currently, the higher education sector is becoming ever more competitive in its pursuit of
53 prospective students and staff. Projecting an image of managing the institution in a
54 sustainable manner is part of the branding that institutions may wish to project in response to
55 growing interest in sustainability from students and prospective employees. Only a small
56 number of higher education providers have, however, succeeded in making sustainability one
57 of the core components of the institutional mission. Whereas there was an increase in
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3 sustainability support and activity by HEIs and by sector agencies after the launch of the UN
4 Decade for ESD in 2005, this appears to have diminished in recent years. This is exemplified
5 by HEFCE's change from a position of initial strong policy support for sustainable
6 development and behaviour change in the HE sector to a more muted and limited
7 engagement in their most recent publication. (HEFCE, 2014). One of the barriers to further
8 ESD integration within institutional missions and in curricula is the absence of strong and
9 contemporary policy signals from the sector agencies overseeing UK HE (Leal Filho, 2010).
10 However, a group of HEIs that have made significant progress in embedding ESD across the
11 institution has been identified within this study. In a similar fashion to the UK National
12 Commission for UNESCO report (UK National Commission, 2017), this paper provides a
13 series of case studies from across the UK that illustrates how these universities and colleges
14 have used the QAA and HEA guidance, what their approach to ESD integration is and how
15 they have gone through the overall process of integration including the challenges faced,
16 responses to challenges and critical success factors applied.
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20 The results of this study show that the QAA and HEA guidance for ESD has been used in a
21 variety of ways by HEIs. These range from individual academics selecting specific elements
22 to institutions adopting the guidance document in its entirety. Most survey respondents
23 indicate their institutional ESD definition broadly aligns with the QAA and HEA's ESD
24 definition. These HEIs have addressed the four core themes of global citizenship,
25 environmental stewardship, future thinking, and social justice, ethics & well-being in degree
26 programmes. Many HEIs have used the graduate attributes matrix within existing courses and
27 in some cases, they have used the guidance to support the design and development of new
28 ones, and to incorporate ESD approaches in their pedagogic practices. The analysis of six
29 HEIs case studies adds another layer to the exploration of guidance use. It highlights the
30 presence of a clear inter-institutional division where one group uses the guidance to support
31 and inform the institution's own work and commitment to ESD, whilst the other group merely
32 uses it as a resource in times when a demand for extra support from academic staff arises.
33 One can deduce from the survey and interview analyses that the higher education providers
34 each have their own approach, as might be expected from autonomous institutions, for
35 integrating ESD in the institution's curricula and that they are at different stages of the
36 integration process. They are scattered across the spectrum from exhibiting low to high
37 presence of ESD integration, graduate attributes, teaching approaches, policy integration, staff
38 support, and co- and extra- curricular activities. This is reflected in a significant variation
39 regarding the extent of ESD embeddedness within HEIs' curricula from merely embedding it
40 in a sustainability-specific course or elective module to institution-wide ESD curricular
41 integration. A similar variation can be found regarding the degree to which ESD has been
42 incorporated within high level institutional support documents. This is where the interview
43 analysis offers an explanation. Whereas one group of institutions applies a top-down approach
44 where every academic staff member is expected to integrate ESD in their course aiming for a
45 holistic whole-institutional implementation approach, the other group refrains from internal
46 policy drivers and relies on the power of the institutional identity of which ESD is an integral,
47 but potentially invisible component.
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50 As higher education providers have been developing their ESD portfolio they have had to
51 enhance their strengths and respond to certain challenges along the way. The variable proven
52 to be most reliable and critical to the overall ESD integration process is the support and
53 commitment of staff. This commitment is not the preserve of one group of staff but
54 encompasses senior leaders, professional administrators and academic staff. This corresponds
55 to the position reported in the literature, which emphasises this factor to be the backbone of
56 the transition to a whole-institutional ESD position (Barth and Rieckmann, 2012; Ralph and
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3 Stubbs, 2014; Disterheft *et al.*, 2015; Ramos *et al.*, 2015). One important driver of change is
4 the allowance of time for staff to engage with, understand the disciplinary context of ESD and
5 to develop appropriate pedagogic responses to the opportunity of ESD. Additionally, it is
6 necessary for an institution to guide academic staff in this process by enabling conversations
7 about what ESD entails, what it already means to them and their discipline with an emphasis
8 on making current invisible ESD practices tangible, and what it could mean in the future in
9 terms of changes to the curriculum. This is an important step in overcoming the most
10 commonly cited barrier to ESD integration; a reluctance to change amongst staff members
11 caused by a misinterpretation of the ESD concept and a lack of understanding of its
12 implications for and impacts on traditional disciplines.

13
14 This approach to ESD integration is, however, not shared by every institution. Some apply a
15 non-label policy in order to avoid conflict where academic staff disagree with integrating its
16 principles in their degree programmes. In these institutions, the decision making relationship
17 between the central administrative unit and individual academics and their disciplines may be
18 one where academic autonomy is stronger and academics have a stronger say over content
19 and pedagogic practices. Approaches that focus on strengthening stakeholder engagement
20 with ESD seems to find more support within the academic community. This is demonstrated
21 by Barth and Rieckmann's proposal (2012) to boost staff motivation and confidence in
22 teaching abilities through the institutional provision of ESD academic staff development
23 programmes. Verhulst and Lambrechts (2015) add to this argument by systematically
24 identifying the presence of human factors i.e. resistance, communication, empowerment &
25 involvement, and organisational culture, across four integration stages providing a change
26 management perspective. The first stage is characterised by intrinsically motivated
27 individuals working without support. The second stage is marked by the involvement of a
28 larger group of staff to raise awareness and acceptance. The third stage comprises of a
29 bottom-up approach guided by a top-down approach that includes communicating
30 sustainability initiatives to staff and students to enhance participation and empowerment.
31 Finally, the fourth stage highlights the necessity of informing and involving a larger staff
32 group facilitated by top-level support and attention for empowerment and communication.
33 Where there is a lack of these crucial elements, universities will slip back into business-as-
34 usual as staff feel abandoned, demotivated and plagued by sustainability fatigue. Most of the
35 institutions surveyed and interviewed for this study seem to have hit that point and are on the
36 verge of moving from stage 3 to 4. Time will tell whether they will get wide-spread support
37 and subsequently will successfully integrate ESD across the institution.
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43 **Conclusion**

44 This exploration of the current position of ESD in UK higher education has enabled a better
45 understanding of the ESD integration process and the use of the QAA and HEA guidance for
46 ESD to facilitate this process. In a time of declining sector support for sustainability
47 initiatives from policy bodies and increasing pressures from a global competitive knowledge
48 marketplace, a group of higher education institutions has managed to make education for
49 sustainable development an institutional priority and have integrated it into the institutional
50 curriculum. This paper has provided examples of the integration process of this group of HEIs
51 including an exploration of the challenges and the critical success factors.

52 There is no single approach to ESD curricular integration that is applied by higher education
53 providers. Instead, there is a multitude of approaches applied varying in their focus of
54 attention, from a pure emphasis on incorporating ESD in high level support documents, to the
55 development of ESD graduate attributes, teaching approaches, informal education activities,
56 and ESD staff support. A clear division in approaches was found between institutions that
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3 took part in the interview process. Whereas one group of institutions applied a top-down
4 approach requiring each degree programme to contain ESD aiming for a holistic whole-
5 institutional implementation approach, the other group refrained from exerting pressure on
6 academic disciplines and relied on their institutional identity of which ESD is an integral, but
7 mostly invisible component. Both approaches have achieved successful outcomes but the
8 culture of an institution will determine which approach is most likely to succeed in a given
9 context.

10
11 In their attempt to transition towards whole-institutional ESD curricular integration, the HEIs
12 have been challenged by a sometimes reluctant staff community, which can be prone to
13 misinterpret ESD equating it to environmental phenomena, and that lacks an understanding
14 regarding ESD's implications for their discipline. They perceive ESD simply as an add-on
15 and a threat to their traditional disciplines. The longer-term solution to integrating and
16 embedding ESD as a whole institution mission is providing staff with the time and resources
17 to engage with the concepts of ESD within the context of their own discipline. In so doing
18 staff will challenge prevailing orthodoxies and consider new pedagogic practices.

19
20 The QAA and HEA guidance has in most cases been a significant factor in promoting the
21 ESD agenda within the institutions by supporting and underpinning the institutions' own ESD
22 commitments. Some HEIs have, however, chosen to follow their own direction without being
23 influenced by external views and to use the guidance document as an extra resource available
24 for staff development purposes.

25
26 The findings of this study are of particular relevance to those HEIs that wish to find support in
27 the process of integrating ESD across curricula in their respective institution. It provides a
28 learning environment, which could encourage HEIs to make an assessment of the presence of
29 the barriers and drivers identified in the study and of the current state of ESD across the
30 institution. The institutions should focus their attention where any gaps are identified. As the
31 results of this study suggest, there is a variety of approaches and levels of ESD integration,
32 which implies that the HE provider in question should determine its stance in the ESD matter
33 and its ambitions for the overall institution. The strength of each individual university or
34 college researched in this study has been the institution's own identity, which has largely
35 influenced the approach to ESD curricular integration. It is therefore important that those
36 HEIs that wish to move the ESD integration process along form an approach to ESD
37 curricular integration that fits with the institution's culture and ethos. Finally, these
38 institutions are encouraged to use a guidance instrument that they feel can support building up
39 the driving factors and eliminating the barriers to ESD curricular integration.
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44 **References**

- 45 Armstrong, C.M. (2011), "Implementing education for sustainable development: The
46 potential use of time-honoured pedagogical practice from the progressive era
47 of education", *Journal of Sustainability Education*, Vol. 2, pp. 1-25.
48 Barth, M. and Rieckmann, M. (2012), "Academic staff development as a catalyst for
49 curriculum change towards education for sustainable development: an output
50 perspective", *Journal of Cleaner Production*, Vol. 26, pp. 28-36.
51 Barth, M. and Timm, J. (2011), "Higher education for sustainable development: Students'
52 perspectives on an innovative approach to educational change", *Journal of Social
53 Science*, Vol. 7, No. 1, pp. 13-23.
54 Brown, R. (2011), "The march of the market", in Molesworth, M., Scullion, R. and Nixon, E.
55 (Eds.), *The marketization of higher education and the student as a consumer*,
56 Routledge, Abingdon, UK, pp. 11-24.
57
58
59
60

- 1
2
3 Bustamante, S. and Brenninger, K. (2013), “CSR and its Potential Role in Employer Branding
4 An Analysis of Preferences of German Graduates”, in *Making the Number of Options*
5 *Grow. Contributions to the Corporate Responsibility Research Conference, Graz,*
6 *2014*, Creative Commons Copyright licence 3.0, At-Graz, pp. 31-54.
- 7 Chapleo, C., Carrillo Durán, M.V. and Castillo Díaz, A. (2011), “Do UK universities
8 communicate their brands effectively through their websites?” *Journal of Marketing*
9 *for Higher Education*, Vol. 21, No. 1, pp. 25-46.
- 10 Cotton, D.R.E. (2006), “Implementing curriculum guidance on environmental education: The
11 importance of teachers' beliefs”, *Journal of Curriculum Studies*, Vol. 38 No. 1, pp. 67-
12 83.
- 13 Creswell, J.W. (2014), “Chapter One: The selection of a research approach”, in *Research*
14 *design: qualitative, quantitative, and mixed methods approaches*, SAGE, London,
15 pp.3-23
- 16 de la Harpe, B. and Thomas, I. (2009), “Curriculum change in universities conditions that
17 facilitate education for sustainable development”, *Journal of Education*
18 *for Sustainable Development*, Vol. 3, No. 1, pp. 75-85.
- 19 Disterheft, A., Caeiro, S., Azeiteiro, U.M. and Leal Filho, W. (2015), “Sustainable
20 universities—a study of critical success factors for participatory approaches”, *Journal*
21 *of Cleaner Production*, Vol. 106, pp. 11-21.
- 22 Everett, J. (2008), “Sustainability in higher education: Implications for the disciplines”,
23 *Theory and Research in Education*, Vol. 6, No. 2, pp. 237-251.
- 24 Fiselier, E. and Longhurst, J.W.S. (forthcoming, 2018), “A Critical Evaluation of the
25 Adoption and Implementation of the QAA and HEA Guidance for ESD by the UK
26 Higher Education Sector”, in Leal, Filho, W., (Ed) *Implementing Sustainability in the*
27 *Curriculum*, Springer.
- 28 Gale, F., Davison, A., Wood, G., Williams, S. and Towle, N. (2015), “Four Impediments to
29 Embedding Education for Sustainability in Higher Education”, *Australian Journal*
30 *of Environmental Education*, Vol. 3, No. 2, pp. 248-263.
- 31 Hannover Research (2014) “Trends in Higher Education Marketing, Recruitment, and
32 Technology”, available at: [http://www.hanoverresearch.com/media/Trends-in-](http://www.hanoverresearch.com/media/Trends-in-Higher-Education-Marketing-Recruitment-and-Technology-2.pdf)
33 [Higher-Education-Marketing-Recruitment-and-Technology-2.pdf](http://www.hanoverresearch.com/media/Trends-in-Higher-Education-Marketing-Recruitment-and-Technology-2.pdf) (accessed 18
34 January 2017).
- 35 NUS (2016), “Two thirds of students want to learn more about sustainability”, available at:
36 [http://sustainability.nus.org.uk/articles/two-thirds-of-students-want-to-learn-more-](http://sustainability.nus.org.uk/articles/two-thirds-of-students-want-to-learn-more-about-sustainability)
37 [about-sustainability](http://sustainability.nus.org.uk/articles/two-thirds-of-students-want-to-learn-more-about-sustainability) (accessed 18 May 2017).
- 38 HEFCE (2013), “Students’ Green Fund”, available at:
39 http://www.hefce.ac.uk/news/newsarchive/2013/Name_93911.en.html (accessed
40 19 January 2017).
- 41 HEFCE (2014), “Sustainable development in higher education: HEFCE’s role to date and a
42 framework for its future actions”, available at:
43 <http://www.hefce.ac.uk/pubs/year/2014/201430/> (accessed 11 January 2017).
- 44 Hofman, M. (2012), “Sustainable development in the Finnish teacher education—political
45 rhetoric or reality”, *Nordic Studies in Science Education* [online]. 8(3), pp. 303.
- 46 Karatzoglou, B. (2013), “An in-depth literature review of the evolving roles and contributions
47 of universities to education for sustainable development”, *Journal of Cleaner*
48 *Production*, Vol. 49, pp. 44-53.
- 49 Kim, S. and Park, H. (2011), “Corporate Social Responsibility as an Organizational
50 Attractiveness for Prospective Public Relations Practitioners”, *Journal of Business*
51 *Ethics*, Vol. 103, No. 4, pp. 639-653.
- 52 Leal Filho, W. (2010), “An overview of ESD in European countries: What is the role of
53
54
55
56
57
58
59
60

- national governments?”, *Global Environmental Research*, Vol. 14, pp. 119-124.
- Lin, C., Tsai, Y., Joe, S. and Chiu, C. (2012), “Modelling the relationship among perceived corporate citizenship, firms’ attractiveness, and career success expectation”, *Journal of Business Ethics*, Vol. 105, No. 1, pp. 83-103.
- Longhurst, J.W.S., Gough, G.K., Hills, S. and Grant, M. (2015), “Developing a holistic approach to implementing education for sustainable development across a higher educational institute: a longitudinal study of the University of the West of England, Bristol”, in Leal Filho, W., Azeiteiro, U.M., Caeiro, S., Alves, F. (Eds.) *Integrating Sustainability Thinking in Science and Engineering Curricula: Innovative Approaches, Methods and Tools*. Springer, New York & Heidelberg.
- Lozano, R., Lukman, R., Lozano, F.J., Huisingh, D. and Lambrechts, W. (2013), “Declarations for sustainability in higher education: becoming better leaders, through addressing the university system”, *Journal of Cleaner Production*, Vol. 48, pp. 10-19.
- Mengshoel, A.M. (2012), “Mixed methods research—So far easier said than done?” *Manual Therapy*, Vol. 17, No. 4, pp. 373-375.
- Mochizuki, Y. and Fadeeva, Z. (2010), “Competences for sustainable development and sustainability: significance and challenges for ESD”, *International Journal of Sustainability in Higher Education*, Vol. 11, No. 4, pp. 391-403.
- Morse, J.M., Stern, P.N., Corbin, J., Bowers, B., Charmaz, K. and Clarke, A.E. (2016), *Developing grounded theory: The second generation*. Routledge: London.
- People and Planet (n.d.), “How sustainable is your university?” available at: <https://peopleandplanet.org/university-league> (accessed 27 January 2017).
- Pucciarelli, F. and Kaplan, A. (2016), “Competition and strategy in higher education: Managing complexity and uncertainty”, *Business Horizons*, Vol. 59, No. 3, pp. 311-320.
- QAA and HEA (2014). Education for sustainable development: Guidance for UK higher education providers. Available from: <http://www.qaa.ac.uk/en/Publications/Documents/Education-sustainable-development-Guidance-June-14.pdf> [Accessed 8 January 2016].
- Ralph, M. and Stubbs, W. (2014) “Integrating environmental sustainability into universities”, *Higher Education* [online]. 67(1), pp. 71-90.
- Ramos, T.B., Caeiro, S., van Hoof, B., Lozano, R., Huisingh, D. and Ceulemans, K. (2015), “Experiences from the implementation of sustainable development in higher education institutions: Environmental management for sustainable universities”, *Journal of Cleaner Production*, Vol. 106, pp. 3-10.
- Sterling, S. and Thomas, I. (2006), “Education for sustainability: the role of capabilities in guiding university curricula”, *International Journal of Innovation and Sustainable Development*, Vol. 1, No. 4, pp. 349-370.
- Thomas, I. (2004). Sustainability in tertiary curricula: what is stopping it happening? *International Journal of Sustainability in Higher Education* [online]. 5(1), pp. 33-47.
- Tierney, A., Tweddell, H. and Willmore, C. (2015), “Measuring education for sustainable development: Experiences from the University of Bristol”. *International Journal of Sustainability in Higher Education*, Vol. 16, No. 4, pp. 507-522.
- Tilbury, D. (2011), “Higher education for sustainability: a global overview of commitment and progress”, *Higher education in the world*, Vol. 4, pp. 18-28.
- UK National Commission for UNESCO (2013), “Education for Sustainable Development (ESD) in the UK – Current status, best practice and opportunities for the future”, available from: <http://www.unesco.org.uk/wp-content/uploads/2015/03/Brief-9-ESD-March-2013.pdf> (accessed 11 January 2017).

- 1
2
3 UK National Commission for UNESCO (2017), “Good Practice in Education for Sustainable
4 Development (ESD) in the UK: Case Studies”, available at: [https://www.unesco.org.
5 uk/news/best-practice-advice-for-your-esd-project/](https://www.unesco.org.uk/news/best-practice-advice-for-your-esd-project/) (accessed 19 May 2017).
6
7 Verhulst, E. and Lambrechts, W. (2015), “Fostering the incorporation of sustainable
8 development in higher education. Lessons learned from a change management
9 perspective”, *Journal of Cleaner Production*, Vol. 106, pp. 189-204.
10
11 Wals, A.E. (2014), “Sustainability in higher education in the context of the UN DESD: a
12 review of learning and institutionalization processes”, *Journal of Cleaner Production*,
13 Vol. 62, pp. 8-15.
14
15 Wyness, L. and Sterling, S. (2015), “Reviewing the incidence and status of sustainability in
16 degree programmes at Plymouth University”. *International Journal of
17 Sustainability in Higher Education*, Vol. 16, No. 2, pp.237-250.
18
19 Yarime, M. and Tanaka, Y. (2012), “The issues and methodologies in sustainability
20 assessment tools for higher education institutions a review of recent trends and future
21 challenges”, *Journal of Education for Sustainable Development*, Vol. 6, No. 1, pp. 63-
22 77.

23
24 The research approach has been reviewed by UWE’s Faculty Research Ethics Committee and
25 approval to proceed granted under reference UWE REC REF No: FET.16.02.027 dated
26 21st April 2016.
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Exploring the current position of ESD in UK Higher Education Institutions

List of barriers to curriculum change
Sustainability is too abstract or too broad
Sustainability lacks a scientific basis
Misconceptions related to sustainability
Institutions have no staff to work on sustainability
A lack of incentives and information on environmental issues
A lack of financial and organisational resources
A lack of staff training and development support
A lack of expertise and tradition
A lack of interest and commitment amongst administrators, students and staff
A clashing with the predominant university culture and organisational structures
Benefits of change are unclear or invisible

Figure 1: List of barriers to embedding ESD

- 1: Was the institution aware of the QAA and HEA Guidance before taking part in this study?
 2: Has the institution made use of the QAA and HEA Guidance?
 3: To what extent has the institution embedded the QAA and HEA Graduate Learning Outcomes in the curricula? Please select all that apply. The institution has:

- embedded QAA/HEA outcomes in (an) existing course(s)
 used QAA/HEA outcomes to create (a) new sustainability module(s)
 used QAA/HEA outcomes to create (a) new sustainability course(s)
 not used QAA/HEA outcomes
 other

- 4: Has the institution used the QAA and HEA Guidance for any of the options described above? Please select one of the options below.

- Yes, the institution has appropriated all the graduate outcomes
 Yes, the institution has selected the most appropriate graduate outcomes
 Yes, the institution has adapted the graduate outcomes to fit the (inter)disciplinary context
 No, the institution has created sustainability graduate outcomes of its own
 No, the institution has used another framework/guidance
 No, the institution does not have sustainability graduate outcomes
 No, but the university/college is planning on using the QAA and HEA Guidance

5. Please indicate which of the following options has been informed by the QAA and HEA Guidance and/or ESD (please select all that apply):

	QAA/HEA Guidance	ESD
Vision statement	<input type="checkbox"/>	<input type="checkbox"/>
Strategic Plan	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Strategy	<input type="checkbox"/>	<input type="checkbox"/>
Learning and Teaching Strategy	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Action Plan	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Policy	<input type="checkbox"/>	<input type="checkbox"/>
Annual Report	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability/Environment Report	<input type="checkbox"/>	<input type="checkbox"/>

6. The QAA and HEA Guidance has outlined four core themes on which sustainability graduate learning outcomes should be based: (1) global citizenship, (2) environmental stewardship, (3) social justice, ethics and wellbeing, and (4) future-thinking. Please indicate to what extent the core themes are present in the graduate learning outcomes of the institution's degree programmes:

- In all degrees
 In most degrees
 In some degrees
 In none

7. Does the institution offer staff development sessions to build staff capacity and capability to integrate sustainability into the curricula?

Figure 2: Selection of online survey questions

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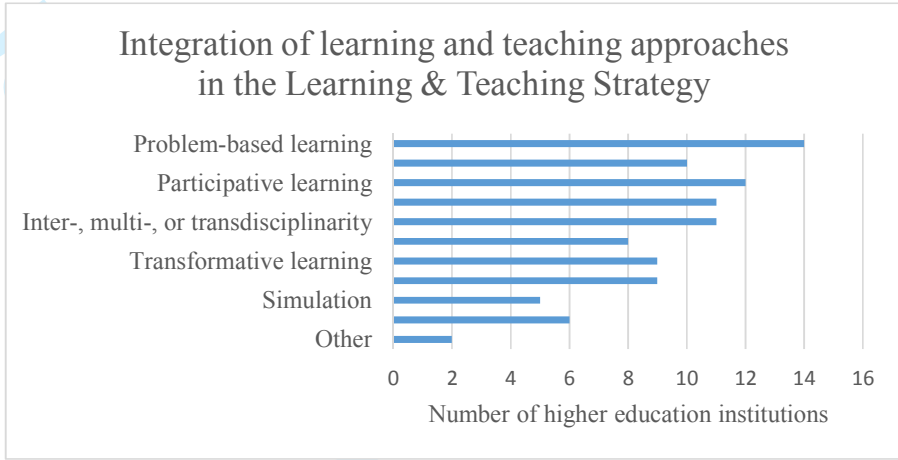
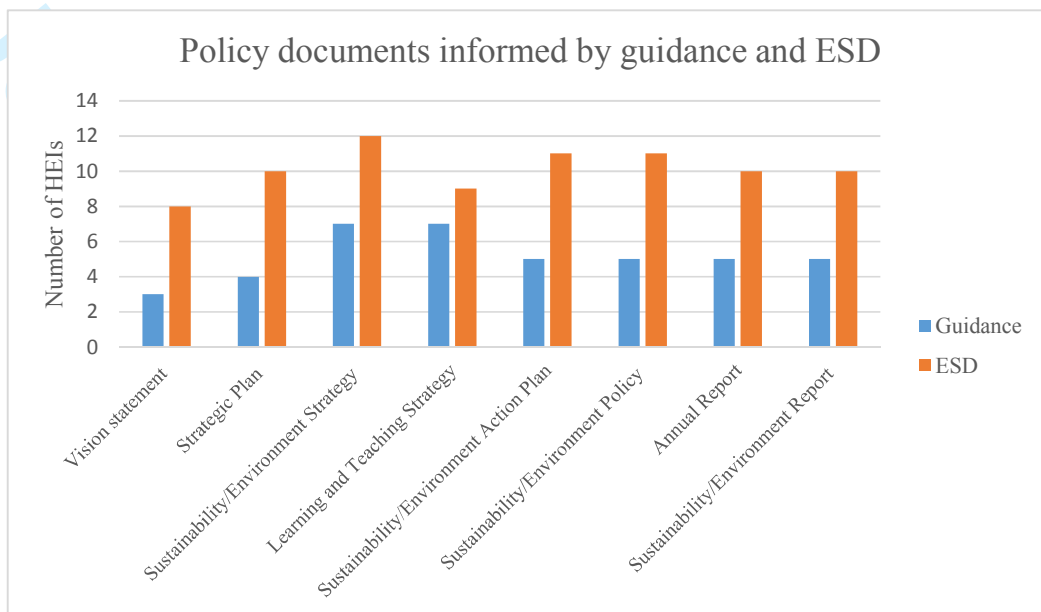


Figure 3: Integration of learning and teaching approaches in Learning and Teaching Strategies

Sustainability in Higher Education



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Figure 4: Policy integration QAA and HEA guidance and ESD

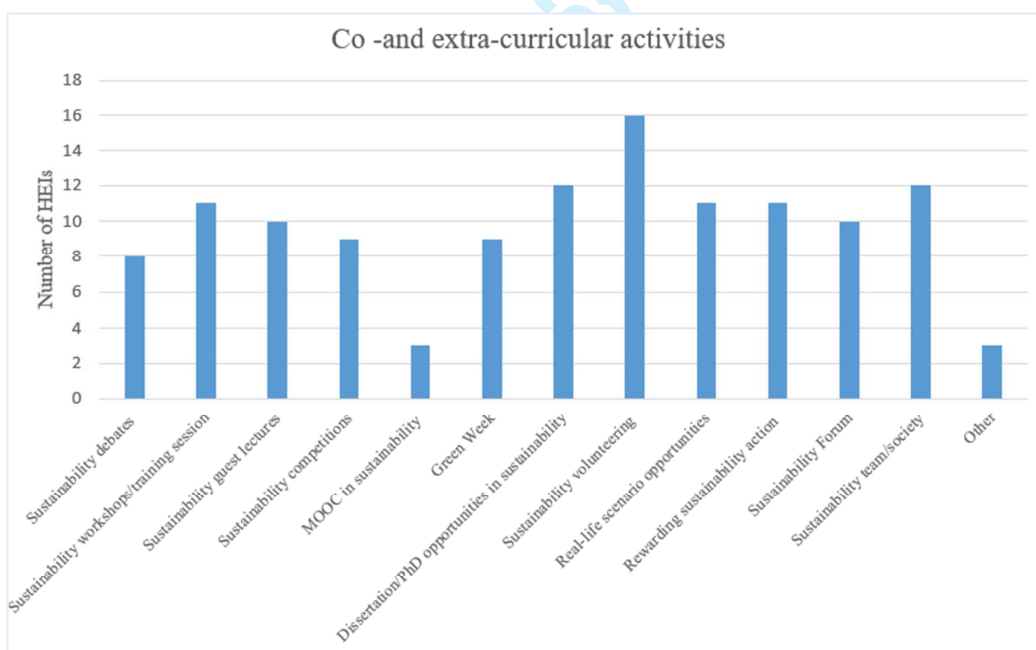


Figure 5: Informal education activities

Table 1: Scores of ESD and guidance integration per HEI

Higher education institution	Definition	4 themes	Graduate Attributes	Learning & Teaching	Policy QAA/HEA	Policy ESD	ESD integration	Co -and extra-curricular	Staff support	Total score
Bucks New Uni.	2	1	2	1	1	2	2	1	2	12
Cardiff Metropolitan Uni.	2	2	3	1	1	2	3	2	2	16
Uni. of Chester	2	1	1	1	1	1	2	3	1	10
Uni. of East Anglia	2	3	3	3	1	3	3	3	2	21
London Inst. For Banking & Finance	2	3	2	2	2	2	3	3	2	19
Keele Uni.	2	2	2	1	1	3	2	3	2	16
King's College London	2	1	2	2	1	1	2	1	1	12
Kingston Uni. London	2	1	2	2	3	3	1	2	1	15
Manchester Metropolitan Uni.	2	1	2	2	3	3	2	3	2	17
Northumbria Uni.	2	3	2	3	3	2	3	2	1	19
Plymouth Uni.	2	1	3	3	3	3	2	3	2	20
Portsmouth Uni.	1	3	2	2	1	3	2	1	1	14
Uni. of Sheffield	1	1	2	3	1	1	1	3	2	13
Uni. of the West of England	2	3	3	3	2	3	3	3	2	22
Anonymous 1	1	3	3	3	1	3	3	3	2	20
Anonymous 2	2	2	2	1	3	1	2	1	2	13

•Definition: 1= no, 2= yes

•4 themes:

1=adoption in some degrees

2=adoption in most degrees

3=adoption in all degrees

•Graduate Attributes:

1=no ESD GAs

2=adapted GAs to fit institutional context/
integrated in (an) existing course(s)/own GAs

3=used GAs for curriculum design & delivery

•L&T: 1= 0-3 learning approaches

2= 4-7 learning approaches

3= 8-10 learning approaches

•Policy QAA/HEA and ESD:

1= 0-2 policy documents

2= 3-5 policy documents

3= 6-8 policy documents

•ESD integration:

1= specific sustainability courses/electives

2= few undergrad and/or postgrad courses

3= all undergrad and/or postgrad courses

•Co- and extra:

1= 0-4 activities

2= 5-8 activities

3= 9-12 activities

•Staff support:

1= no

2= yes

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