GRADUATE EMPLOYABILITY AND SUSTAINABILITY:
POLICY TRENDS AND STUDENT PERSPECTIVES

Graduate Challenge Project

University of Gloucestershire

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Acknowledgements go to the Sustainability Team at the University of Gloucestershire, the Centre for Enterprise and Innovation for supporting the Graduate Challenge[1] project, to Simon Dove for mentoring me through the employment aspects of the placement, to the students that gave their time and insight to the project, and lastly to Dr Alex Ryan for her valuable support.

[1] The Graduate Challenge scheme provides 4 month placement opportunities for students to gain employment experience either within the University or in external organisations locally. This project was carried out by Lewis Barber, a recent graduate of University of Gloucestershire, under supervision of the Sustainability Team.

EXECUTIVE SUMMARY

Project Overview

This project was carried out in the Sustainability Team at the University of Gloucestershire as part of the Graduate Challenge scheme from October 2011 to February 2012. The project was designed to investigate external trends and student views on employability and sustainability, using a national literature review and an online survey of students at the University.

The University views both employability and sustainability as strategic priorities and is exploring the connections with skills development and learning opportunities provided for students. Both agendas are increasingly important in higher education, for employers and government, as the UK looks to emerge from economic downturn and national discourse grows around the 'green economy'. This study should help the University to shape its strategic work in these areas by showing national and student interest in sustainability and links with support for employability.

The project involved a wide-ranging literature review of research publications, policy briefings, environmental skills and green economy reports, education for sustainability publications and employability reports. The sources ranged from higher education institutions and sector agencies, government departments, sector skill councils and market research companies.

The survey was administered online to University of Gloucestershire students in all course types for one month, obtaining 406 responses. The data was analysed to identify trends and patterns around employability and work-focused learning, in relation to sustainability issues and skills, to produce recommendations for improving understanding and skills in these areas.

Literature Review – Findings

The policy context shows the need for students to develop strong soft skill sets alongside specialist professional knowledge and technical skills, as UK businesses operate in high value sectors and need adaptable graduates. However, the main driver of graduate employability is work experience. Internships, sandwich placements and short-term placements are key to advancing knowledge of the professional workplace, developing skills for chosen sectors and ensuring strong soft skills. The emphasis on soft skills across the literature is prominent and this is where concerns around higher education and skills development for employability and sustainability connect. The review also points to the increasing importance of intercultural competence in global graduate markets.

In supporting employability, higher education institutions (HEIs) have varying degrees of success, but good practices are emerging and employability is gradually being embedded into University life. Leading examples engage employers in the delivery of internships and work-focused learning, as well as improving careers services, to co-ordinate learning and development for employment and support the major skills gap that exists in the transition from education to employment.

The development of sustainability skills is important from the view of higher education, businesses and government. However, organisations seem unsure how to progress sustainability skills and awareness. Businesses need commitment from government in funding support, market information and forecasting of future growth markets, but there is a struggle to cultivate a balance between short-term requirements for labour skills and longer term needs around sustainability skills.

Universities are looking to gain an overview of both employer demand and student development for sustainability skills. However, significant attention is paid to science, technology, engineering and

mathematics (STEM) subjects, with other subjects either seen as vulnerable or less well understood in this skills agenda. Skill deficits in the 'green economy' literature are managerial and technical in nature, which adds to the general view of employers on skills deficits in communication, numeracy and teamwork, but there is a bias towards environmental and economic concerns in the reports. There is however a clear emphasis on the need for retraining and reflective Continuing Professional Development, which is also important in the employability studies and for sustainability skills.

The Education for Sustainability (EfS) literature advocates a broader range of skills for society to genuinely transform economic, societal and environmental practice. This demands collaborative practice between universities and employers, which is increasingly important in the national skills agenda and around SMEs. Student perceptions of sustainability are underexplored, but there is a gradual increase in research that indicates students expect universities to actively develop their sustainability skills. However, little is known about how students expect higher education to achieve this, particularly in the context of a changing sector and pressurized graduate labour market.

Student Survey - Findings

Important messages and findings from the survey included the following points:

- Students are proactive in pursuit of employability experience, showing high demand for employment related learning.

- Students place importance on career guidance and placements as the next steps to improve their employability.

- 60% of students see sustainability skills as fairly or very influential on future employment markets.

- When ranking career goals and values, intellectual development, career progression, creativity and innovation, and work-life balance featured most highly. Some of the obvious sustainability factors like contributing to environmental change and the employers' ethical stance were ranked lower, and contributing to economic regeneration lowest of all.

- Students embrace a wide range of options to build their skills for sustainability, showing they set their professional ambitions on sustainability initiatives in an employability context.

- Creative problem-solving, innovation and teamwork were rated as the top three skills for building sustainable societies.

- The majority of students seem to be unaware of the value of some sustainability skills, such as stakeholder engagement and systems thinking, for building sustainable societies.

- In terms of sustainability issues in the curriculum, students pointed to good coverage of social and organisational matters, but less treatment of environmental topics and issues around global development and alternative trading and economic systems.

Conclusion

The results indicate high demand for work-focused learning schemes. If the University is to increase its employability profile it needs to provide more internships and placements for students. Care should be taken to address those students who lack engagement with employability initiatives, as results indicate

that whilst some students maximise their opportunities, others have not had these experiences at university. Due to the diverse range of options that student's value to enhance their employability and sustainability skills, more collaboration with employers is required.

It is clear that sustainability skills need more clarification and alignment with those employability skills that are better understood in higher education and by employers. Students perceive sustainability as influential on future graduate employment markets and would like the University to actively develop its professional support in a more tangible and focused way.

The recommendations students made to improve their sustainability skills were mainly employment orientated, signifying the potential for these two agendas to merge and move forward in more strategic ways across the higher education sector.

Overall, this project points to three key messages for the University of Gloucestershire:

1. A majority of students across all educational levels viewed sustainability as important for future graduate employment markets, and employers need innovative, informed graduates in this area. The 'green economy' discourse is limited, technical and STEM-focused, which leaves many businesses unsure about how to respond to their key sustainability issues.

2. Students do not approach sustainability in a compartmentalised way; it is perceived as strongly connected to their employability and all related skills development provision and opportunities during their university studies.

3. Students wish to see courses improved to address sustainability skills and issues, supported through co-curricular activity such as: e-learning resources, placements and field work in sustainability, collaboration with students from other courses, case study approaches in the curriculum, and use of campus sustainability practices as learning resources.

Recommendations for the University of Gloucestershire

- **The University should continue to improve the integration of activities across its careers service and employability support, including DegreePlus, placements, mentoring, PDP, achievement records and the Employable Gloucestershire Graduate Scheme.**

- **The University should look at ways to refine its employability activity focus to respond to students' professional needs and learning patterns, for example:**

    - Recognising the different levels of student attention to employability at different stages of study and reminding Level 2 students of the importance of employability;
    - Conducting research into students PDP/CPD and the relationship with course types (particularly vocational versus non-vocational);
    - Improving the provision of e-learning resources for employability, as students spend a vast amount of time on the internet and seek 24/7 access;
    - Re-evaluating the role of the PDP in helping students to set goals and find work-focused learning opportunities that employers and professions value.

- **The University should look at ways to connect its sustainability work with its employability activities, for example:**

    - Using DegreePlus to increase internships and volunteering around sustainability:

i) *externally*, in collaboration with the RCE Severn partnership organisations; and ii) *on campus*, linked to the University's sustainability and volunteering activities;
- Embedding sustainability skills into role descriptions for DegreePlus placements, skills workshops and other work-focused learning activities in professional settings, which will enhance the development of sustainability profiles for employment;
- Showing how baseline sustainability skill definitions and criteria apply in relation to specific subjects in the curriculum, particularly for postgraduate courses;
- Exploring the potential for placement opportunities with sustainability focus that can improve global perspectives and international skills;
- Supporting course leaders to offer dissertation research and projects in collaboration with sustainability educators and professionals in other subject areas, which will help develop the staff research profile of the University in this area.

Recommendations for the Sector

- The HEA could improve the provision of e-learning and toolkit resources for students that link sustainability with employability in each subject, using its Subject Centre resources.

- The HEA could bring together its previous funded projects in Employability and in Education for Sustainable Development to help develop baseline skill definitions in this area.

- The HEA could develop or promote case studies in specific industries that demonstrate the practical ways that professions engage with sustainability.

- Key sector agencies could collaborate to create leadership development materials that combine soft skills and sustainability skills in relation to 'real world' issues.

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1. INTRODUCTION

The University of Gloucestershire (UoG) is actively developing its sustainability profile through curriculum development, carbon reduction and outreach, viewing 'sustainability' as a concept concerned with shifting mind-sets as well as changing unsustainable practice. The University adopts the UNESCO vision of sustainability, thus it aims to provide opportunities to bring Education for Sustainability (EfS) into its educational practice. It aims to achieve this through enhanced quality of teaching and learning, facilitating stakeholder networks[2] and developing EfS approaches at all levels.

The role of EfS is to provide students with a springboard to meet their professional challenges and improve people's capacity to transform their visions of sustainability into reality. The need to meet professional challenges is increasingly important as employability concerns are prevalent in higher education (HE), with further impact under the new funding arrangements that will be implemented in 2012-2013 academic year. With the landscape of HE dramatically changing higher tuition fees, an increasing number of students will be prompted to select courses that will improve employability prospects and universities are under pressure to share information on their employability rates.

Sustainability is a growing agenda across industries and sectors, with the 'green economy' frequently mentioned in public policy, for example at the upcoming Rio+20 UNCSD [3].However many employers see sustainability as a nebulous concept and are not always sure to how to address it in their organisations. In order to build the skills needed for sustainability and to meet economic, environmental and societal needs, many employers are looking for graduates to have a grasp of sustainability literacy, to be innovative and to challenge the business model, helping to create new opportunities in their sector.

The University decided to commission a study to inform its ongoing initiatives in developing student employability and sustainability skills, using mixed methods and dual points of focus. First, the intention was to gain understanding of the broader sector context, through a review of literature, policy and practice around employability, sustainability skills and the 'green economy'. The second aim was to examine student attitudes and priorities towards the links between employability and sustainability skills at the University. A survey was carried out across the current student cohort, including undergraduates, taught postgraduates and PhD students across different subject areas.

The findings are both important and interesting in pointing out current attitudes to employability and sustainability, potential strategic alignments between the two agendas, and ways to improve the support that students and graduates receive. There is currently a lack of research on these links that brings together research on policy with real views at one institution across all levels of study.

The intention is that this research will be used to inform strategic development at the University of Gloucestershire, to improve the learning experience and professional support for students; and to help academic colleagues to understand how skills for sustainability profiles and educational support can help students progress towards their professional ambitions.

The findings should be of interest to all those involved in teaching and learning around sustainability; improving graduate employability and skills for sustainable development initiatives within HE; as well as outreach, information and guidance. Several recommendations are made for UoG, but may be of use to colleagues in other institutions. Further recommendations are made for the HE sector agencies responsible for supporting HE teaching and learning.

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[2] The University hosts the United Nations University Regional Centre of Expertise in EfS, *RCE Severn*. This consists of a network of local and regional organisations interested in working with the University on skills and learning development, across community, business, local government, cultural and education sectors.

[3] UNESCO (2011) 'From Green Economies to Green Societies: UNESCO's Commitment to Sustainable Development' http://unesdoc.unesco.org/images/0021/002133/213311e.pdf

2. INSTITUTIONAL AND SECTOR CONTEXT

Businesses are increasingly engaged with sustainability agendas, although there is uncertainty about how to move forward, and understand the skills that will be required of future employees. This will require development of sustainability skills across many job roles so that the business retains a sustainability culture and has a workforce equipped to meet uncertain challenges from the economy, environment and society.

However, it appears that there is a gap between the educational literature around skills for sustainability and how government and employers view skills for the green economy. This apparent disconnect motivated the study, as did the need for insight into student perceptions on the educational support they need to attain professional goals in this landscape. It was also important to explore whether the focus of policy makers is concerned solely with the green economy, or whether other competencies and professional responses to support the growth of sustainable communities in the widest range of industries are also being considered.

With an increasingly complex and competitive higher education landscape, universities must ensure that graduates are equipped to enable UK organisations to remain competitive in the global economy. With the increased pressure on graduates in a tough labour market, employability skills are becoming a key way of assessing graduate ability and accomplishment. The new tuition fees regime may signal an increasingly consumer-oriented model of HE. This is further impacted by years of widening participation initiatives in HE which have increased the number of students competing for graduate level jobs[4]. Graduates are pressurized to 'up skill' in order to meet the demands of a high value economy. It has been suggested that few would go to university without the prospect of suitable employment. Given this sector context, those interested in Educational for Sustainability may need to do more to connect with the employability agenda in order to gain ground in HE.

The University of Gloucestershire has launched a new initiative labelled 'DegreePlus' which aims to standardise and coordinate the provision of work-focused learning activities, recognising both its short term and longer-term benefits. DegreePlus aims to identify gaps in provision, prepare students for placements and employment, be applicable to vocational and non-vocational courses, advertise work opportunities, provide internship information internally and externally, in order to encourage students to maximise time at University and to see what they can get from their degree.

Sustainability is a strategic priority for the University of Gloucestershire, which has steadily improved its performance and reputation in this area, as well as the range of its sustainability initiatives, over many years. It first gained ISO Sustainability Management System 14001 status in 2009, which commits the organisation to environmental, legal and other requirements as well as objectives and targets to ensure continual improvement, rigorously checked by third parties. The University has an institutional Sustainability Strategy[5] including not just corporate practice but areas of core business such as curriculum development, research, placements and professional development.

UoG has been recognised through reward schemes and sector rankings for for its continuous improvement and its strong focus on teaching and learning innovation[6]. EfS is central to the strategy and

[4] A snapshot of 2009 graduate destinations (DLHE) HESA survey cited in Prospects (2010), revealed that graduate employment continued to fall and was recorded at 59.2%. This represents 57.6% of graduates securing employment in the UK and 1.6% overseas. The number unemployed six months after graduating increased by 1% in 2009 reaching 8.9[4]%.

[5] http://insight.glos.ac.uk/sustainability/Documents/stratpromisingfutures.pdf

[6] External recognition includes consistent placement in the top 5 of the *Green League*; several shortlisted entries, commendations and awards in the *Green Gown Awards*; and higher than sector average in the 2009 *Universities That Count* performance benchmarking exercise, with an "outstanding" score in Teaching, Learning and Research component.

advocates the need for innovation and change in education systems, to help people create more sustainable ways of life. EfS is shaped by perspectives from all fields, so that reframing of education is necessary rather than adding additional courses. It highlights the need to embed sustainability throughout all course offerings, so that graduates are equipped to meet the professional, societal and environmental challenges they will face. EfS proposes the need to challenge societal practices, to construct knowledge, transform organisations and critique sustainability issues. To achieve this, educators need to use skills such as envisioning, critical thinking, reflection, collaboration and systems thinking – and to help students to build these skills. The University works with a framework of five basic approaches, promoted by UNESCO for its EfS initiatives worldwide:

Table 1 EfS - Five Essential Pedagogic Approaches

Futures thinking	Futures thinking engages people in imagining preferred visions for the future. It involves the exploration of assumptions and of meaningful understandings and interpretations of sustainable development. This process of envisioning futures leads people to take ownership and responsibility for more sustainable futures.
Critical and Creative thinking	Critical and creative thinking enables people to explore new ways of thinking and acting, make informed decisions, and create alternatives to present choices. It involves reflecting on how people interrelate with one other, understanding cultural differences and creating alternative ways to live together.
Participation and Participatory learning	The engagement of people is needed to build sustainable futures collectively. Engaging diverse stakeholders and communities is essential, as they value and include differing knowledge systems and perspectives. The process of participation is also important for creating ownership and empowerment.
Systemic thinking	Thinking systemically is essential to sustainable development, as piecemeal approaches have proved not to work - instead resolving one issue while creating other problems. Sustainable development requires approaches which go beyond analysis in terms of 'problem-solving' and/or 'cause-effect'.
Partnerships	Partnerships are a motivating force towards change. They empower people and groups to take action, to take part in decision-making processes and to build capacity for sustainable development. Intercultural and multi-sectoral partnerships in particular are often highlighted as critical in EfS approaches.
SOURCE: These five components are reflected in the IUCN publication prepared for use worldwide during the UNESCO *Decade of Education for Sustainable Development* from 2005-2014. See: Tilbury, D. and Wortman, D. (2004) *Engaging People in Sustainability*, IUCN – The World Conservation Union, Gland, Switzerland.	

As links between employability and sustainability are underexplored, the project needed to explore strengths, weakness, opportunities and barriers that emerge when trying to connect these areas. It was important to find out where to put the focus of internal activities, gaining views from a range of students and from the national picture at policy level and among employers.

Several core research questions emerged for the project:

- *What are the gaps between employability skill requirements projected through policy and market research with varied industry sectors, and the skills advocated by EfS?*

- *Where do EfS principles connect with 'green economy' skills, and where there are barriers?*

- *What are students' main concerns about sustainability and their future professions – and how much value do students put on sustainability skills and issues?*

- *Where do students seek more employability input and where sustainability initiatives could add value in their studies and their employability experiences at university?*

3. LITERATURE REVIEW

This section presents key themes emerging from the literature review on the graduate employability and sustainability skills agenda in HE. The literature scope was complex due to the range of dynamic issues and stakeholders concerned. There are 38 reports consulted for this review. The themes are drawn from a range of policy reports, HE publications and market research reports addressing employability, the green economy, and sustainability.

Section 3.1: Economic Needs: This section is concerned with establishing where the need for employability skills derives from, who is responsible for developing them, what employability skills entail and where they fit in with policy development.

Section 3.2: Education Response: This section looks at the HE response to developing employability skills through a range of initiatives such as curriculum development, employability profiles, business partnerships and information and guidance. This is necessary to understand the strategic requirements that are required to raise the level of employability skill delivery in HE.

Section 3.3: Green Economy and Sustainability skills: This section looks at context of the green economy in shaping 'sustainability skills', the emerging message is that the sustainability skill set has a fairly narrow focus on technical and STEM skills due to its development through environmental sectors.

Section 3.4: Education for Sustainability: This section looks at how EfS matches up with employer demands, with an emphasis on their integration with managerial and technical skills. The need for collaboration to drive EfS skills into business issues is explored, as well as a broader focus of sustainability skills in EfS.

Section 3.5 Student Perspectives: This section explores recent research on student's conceptual understanding of sustainability, in addition to their experiences of sustainability and visions of its place in higher education and the wider economy for the future.

3.1 Graduate Employability – Economic Needs

3.1.1 The shift to a knowledge economy requires that graduates demonstrate strong 'soft skills' as well as standard transferable skills and specialist professional knowledge

Employability skills can be seen as skills to gain employment, to maintain employment and excel in the workplace; enabling transitions between education and employment. Key commentators on economic and employment issues have pointed out that in order to meet the demand of a knowledge intensive economy and maximise their potential, graduates need a range of employability skills (Prospects, 2011; 2010). One Campaign for Industry in Higher Education (CIHE) skills report shows the need for soft skills, including the ability to reflect on learning and career development (CIHE, 2008). A recent Confederation of British Industry (CBI) study shows the importance of personal attributes in graduate recruitment (77%) compared to subject knowledge (25%) (CBI, 2009). The CBI's extensive report on perceptions of graduate skills across 694 employers showed disparities between the views of employers and students/graduates. The study outlines the potential impact on business productivity due to certain skills deficits and that almost half of businesses (46%) were dissatisfied with graduates' time management, problem solving and customer awareness skills (particularly critical in the public sector – 73%). Soft skills are also needed to supplement technical and job specific skills.

Graduates need strong soft skills and the ability to reflect on learning and career development to maximise their potential and meet the demand of a knowledge intensive economy (CIHE, 2008). Employability skills[7] are skills such as problem solving, team work, communication, time management and self awareness and are conceptualized as transferable skills and personal attributes[8] and are the most important factor for recruiting new graduates for 77% of businesses surveyed (CBI,2009). There is evidence of disparities between student/graduate evaluations of their own skills and employers (CBI, 2010).The Confederation of British industry (2010) conducted research on employer perceptions of graduate skills: These deficits will affect businesses productivity and efficiency. 694 employers responded (8% of total workforce), and the results indicate that:

- 63% businesses want to see a rise in numeracy and literacy ability.
- 30% were very satisfied with the level of these skills.
- Almost half of businesses (46%) are dissatisfied with graduate's time management, problem solving and customer awareness; a top priority for firms, particularly in public sector (73%).

There is criticism of perceptions of employability skills is that transferability of skills is too readily assumed (Yorke, 2006), and that employability is actually a rather complex matter. Some critical points aimed at 'employability' are (Yorke, 2006):

- Gaining a graduate job and success within the role should not be conflated.
- Skills and knowledge should not be construed in narrow terms.
- It is a probabilistic model, there are no guarantees that employability skills converts into a graduate job, due to dynamic socio-economic factors.
- The choice of occupation is restrained for many graduates; they have to settle for a post that matches more directly with their skill set.

What is clear is that students need to maximise their time spent at University and engage with the range of employability schemes that are offered (CBI, 2011).

3.1.2 Several studies point to the disadvantage UK graduates will face unless they cultivate the global mindset and intercultural skills required to operate in increasingly globalised business environments

UK graduates will be at a disadvantage if they do not show their global mind set and inter cultural skills necessary to operate in a rapidly globalising business environment (CIHE, 2008; British Council, 2011; Lowden, Hall, Elliot and Lewin, 2011). This can show the ability to function in multi-cultural teams (Lowden et al, 2011), to understand stakeholder requirements, and understand international markets. There is further agreement on this issue; findings from a recent report conducted by the British Council and Think Global (2011) indicate that knowledge of the wider world is more important than degree classification and A-levels; although this is a questionable statement. Businesses with a global orientation find it harder to recruit people with the right skills than businesses without a global orientation (British Council, 2011).

3.1.3 Government policy shifts during the economic downturn are leading to an increasingly employer led system as well as regionally based decision making, prompting the need for greater entrepreneurialism, flexibility and mobility in graduates.

According to a study by the L&S Information Service (2011), there has been a shift in power from a centralised decision making approach, to a regional decision making process (LSIS, 2011) and a move towards an employer led demand system. There are big changes shaping across public services, driven by

[7] Prospects (2011) suggest employability skills fall into four broad categories: self reliance skills, people skills, general employment skills and specialist skills.

[8] Personal attributes refer to teamwork, positive attitude, reliability, commercial awareness, honest, flexibility.

reform amongst spending cuts. Reshaping the way services are designed, delivered and accounted for (LSIS, 2011). Economic downturn has placed an emphasis on skill development and growth. The central government is allowing for more open practice, and localised control; prompting a culture of entrepreneurism, flexibility and social mobility (LSIS, 2010). It can be seen that the government want a flexible learning system that is underpinned by collaboration between SSCs, employers and HE in order to meet the demands of employers. With new sub-regional strategies, HE providers need to assess where the resources lie to develop work based learning opportunities.

3.1.4 The UK can only compete on high value sectors. This means that the UK has to be more knowledge intensive and innovative.

A high value economy is an economy in which businesses innovate and produce high value products and services; requiring investment in education, training and development. High-level skills encompass STEM (Science, Technology, Engineering and Mathematics) related skills and R&D (DIUS, 2008), although the supply of STEM graduates is not enough to meet employer demand (CIHE, 2008). The demand for STEM graduates is founded on the notion that most organisations contain STEM personnel that can drive the innovative aspects of the business and combine specialist knowledge with high-level skills[9] (Prospects, 2011). The emergence of STEM subjects with a management focus is also seen as a positive move to enhance leadership skills in conjunction with high-level technical skills.

Increased support for green innovation and R&D is a further requirement for a green economy (TUC/Impetus, 2009). Innovation is a central concept in the vision for a green economy; technical skills are needed at different levels of a business to create, maintain and use green technologies. The UK currently lags behind other countries in this area, particularly in the public sector. R&D investment in the UK is currently 1.78% of GDP whereas the OCED average is 2.26% (TUC/Impetus, 2009). Consequently, this slows the pace of technological development and procurement. If the UK wants to take a lead on low-carbon markets then more R&D is needed.

3.2 Graduate Employability – Educational Responses

3.2.1 HE institutions have increased their range of employability initiatives and support for graduates, although there is varied evidence of success across the sector.

94% of HEIs claim they have already tailored their curriculum to enhance employability (CBI, 2009); initiatives include:

- Adaptations to content and assessment to incorporate a wider range of skills.
- Linking subject knowledge to the outside world also gives subject disciplines an applied focus that can enhance employability.
- Offering foundation degrees via work based learning, and other innovative ways.
- Encouraging students to use the PDP plan, with CPD modules also entering the educational mix. This allows students to reflect on the development of employability skills.
- Encouraging entrepreneurship and providing students with contacts for local employers.
- Enhancement of employability profiles, which are a key resource for students, academic staff and careers staff (Rees, Forbes and Kubler, 2009).
- Accrediting employability skills (CBI, 2011).
- Developing outreach programmes, giving students chance to gain volunteering experience (UUK and nef, 2011).

[9] Employers see graduates from STEM fields as having the higher of level analytical, problem solving, numerical skills and intellectual rigour than graduates from other fields (Prospects, 2010).

There is need to provide more work placements, particularly as employers will not take on candidates unless they have relevant work experience (High Fliers, 2012).Work experience can enhance the generic skills, technical skills and professional competencies of a graduate as well as increase ability to make informed career decisions, gain confidence and enhance motivation towards study. Students that undertake placements also report better degree results. Integrated placements and experiential learning are one of the most crucial measures that HEIs can adopt. Employability must be embedded into faculty department practice, otherwise employability programmes are at risk due to changes in personnel (Lowden et al, 2011). Vocational and business oriented subjects already make use of these approaches but humanities, social sciences and other strategically vulnerable subjects could benefit from such measures (HEFCE, 2008). However, learning and skills policies nationally and locally are becoming more complex and uncertain. With new sub-regional strategies, HE providers need to assess where the resources lie to develop work based learning opportunities. Furthermore, employability must be embedded into faculty department practice, otherwise employability programmes are at risk due to changes in personnel (Lowden et al, 2011).

3.2.2 Employers are becoming more actively involved in the provision of employability opportunities for students including their engagement with the HE sector.

Employers are increasing their provisions for students such as: sandwich placement, internships, sponsorship, rotational placement schemes, short knowledge transfer partnerships (SKTPs), volunteering, part time work, and teach first initiatives (Belt, Drake and Chapman, 2010; CBI, 2009). Placements and internships need to be seen as core to business, as graduates have a positive impact through placement (97%) (AGR, 2009). Importantly employers have expressed their views that placements need to be at least six months in order to add value (SCRE, 2011).

Many top organisations have begun collaborating with universities, particularly in areas such as computing and business. This can enhance the leadership skills and high-level technical skills of students. The collaboration can enhanced R&D for both parties and create innovation ecosystems that can drive intellectual property. Universities need to be aware of the collaboration model for particular subject fields and markets, as intellectual property law can present a barrier for collaboration (Masi and Tew, 2009). Industry differences matter and there is a need to understand the differences.

3.2.3 Small and medium enterprises are an untapped resource for the HE sector particularly in providing short-term projects; this could provide a balance between supply and demand in the graduate labour market.

The literature suggests that large firms are more engaged with the HE sector, with more placement links and with other aspects of collaboration (CBI, 2009). However, SMEs are untapped resources for universities; only seventeen percent have links with HEIs, compared with ninety percent of firms with 5,000+ employees (Edwards, 2010). Federation of Small Businesses are urging the Government to create 5,000 placements with SME's (AGR, 2009). HEIs need systematic ways of engaging with SMEs, through policy and funding; generally, although there is concern on behalf of HEIs about the flexibility of placements and how this fits around the curriculum.

3.3 Sustainability Skills – Green Economy

3.3.1 There is a high demand for action on sustainability skills, collaborative approach required from government, business, HEIs and third parties.

The government has set out a strategy for skills reform for sustainable growth which is a government issue (HM, 2011b). With training providers freed from central control so that they can respond flexibly to business needs. Research from the Academy of Sustainable Societies (ASC) has shown that the best

project result from full engagement from all professionals who sometimes compromise their individual objectives (ASC, 2007). However, there is a lack of collaboration and information sharing between these bodies, and between businesses. Reasons for aversion are corporate insecurities, competitive sensitivities and unhelpful reward systems (IBM, 2010).

- Collaboration between stakeholders should be fair and inclusive ways that align goals with local resources, students and employment systems is needed. Other recommendations are to increase stakeholders in the design of skill programmes and services (HM, 2011a).
- Collaboration is also needed to alert businesses to the commercial benefits of sustainability, to provide a focus of sharing ideas and experiences, build a common understanding of what SD entails, to develop strategy and insights into SD and promote and demonstrate coherence with sector bodies (LSIS, 2011).
- The collaboration principle can also lead stakeholders to innovate and feed into a 'bottom up' approach.
- More systemic thinking is required to achieve collaboration, as organisations and markets are complex. Government and businesses must work together to unblock barriers to the transition and create new market opportunities (HM, 2011b).

3.3.2 The Government, employers and HEI's face difficulty cultivating balance between short term labour skills and long term sustainability skills[10]. However, a distinction is needed for funding, support and policy purposes.

The Government vision of a green economy is to use resources efficiently, be more resilient to climate change and rising energy costs, and exploit opportunities in emerging markets around environmental goods and services. Sectoral characteristics are intensifying problems for sustainability skill development; typically, these sectors are under intense competition, characterised by high labour turnover, low return on investment, constrained wages, skills that are expensive to develop and contain a large number of small firms (HM, 2011a).

The Green economy requires re-training agenda*;* the transition to a green economy requires a workforce with the right skills (HM, 2011a), not only in the low-carbon and environmental sector but for businesses generally (Lowden et al, 2011). From a review of the literature it is clear that green skills refers to a tighter range of skills that reflects environmental and economic needs, however the EfS agenda advocates the need for a broader range of skills that can challenge societal norms, and transform educational practice. HEIs therefore are in a unique position to be critical of wider society, and challenge reforms and policies that shape the sustainability agenda.

It is suggested that an employer led demand system is not sufficient for a green economy and that government intervention is required. Organisations lack awareness and understanding of green skill requirements and the implications of the green economy (Bird and Lawton, 2009), particularly outside of the built environment sector and environmental sector. ProEnviro (2008) suggest that the lack of awareness is leading to short-term approach from policy makers, the public sector and SSC's. Consequently, businesses are finding it difficult to plan ahead as they do not know what the main policy drivers are going to be. Confidence in the timing in the demand for green skills is too low for investment purposes. To invest in new processes, systems and tools, businesses need to be certain on Government action (HM, 2011a).

Skills funding is inflexible and is spread across the economy with little assessment of where it would have the most impact (Bird and Lawton, 2009).

[10] Sustainability skills from an EfS perspective refer to skills such as: systems thinking, futures thinking, stakeholder engagement and critical thinking.

Sophisticated market information and government support can provide distinction for policy, training and funding purposes (Belt et al, 2010a). The literature suggests there are three areas for intervention:

- Policy should not be used to support failing industries but support the growth of emerging green sectors. However, the Government suggests it will support businesses that are hard hit by the transition (HMG, 2011b).
- Policy should capitalize on economic advantages through geographical factors, expertise and supply chains.
- Good value jobs should be created, to add social benefits in addition to economic and environmental benefits. Green jobs need to be well paid, have safe working conditions and reasonable career prospects (UNEP, 2008).

Further ProEnviro (2008) identify a key issue is understanding and awareness, more clarity is needed over the terms: sustainable development, green, eco, environmental – each term is used interchangeably and means different things to different people, there is a lack of clarity throughout the economy as a whole.

3.3.3 There is currently a culture of organisational risk aversion for businesses, particularly due to the recent recession and lack of economic growth. Businesses need commitment from government to transition to green economy.

There is particular criticism of government's commitment to grant programs (TUC/Impetus, 2009), resulting in a lack of sustainable development and consumer demand for businesses. The short-term outlook of many businesses can reduce the demand for green skills; this can prevent long-term investment. It is suggested that the environmental and social aspects are seen as blockers to the economic growth (IBM, 2010). Businesses need to be reminded of the importance of all three factors.

Subsidised state training from SSC's is seen as a positive move to incentives development. Although, the scaling down process and reduced state funding has also led to a reliance on the current workforce, rather than long-term investment in the recruitment of new employees, training providers are also accused of being profit driven. Businesses may invest in skills that are specific to their firm to hold on to employees, particularly in STEM areas and for small firms whom find it hard to access and afford training. (HMG, 2011a), creating a barrier to the development of transferable skills.

Employers and the government need to contribute to funding in order to maximise the benefit derived from the training. Employers invested £39 billion in skill development for employees in 2007-2008 (BIS, 2010). However, there is conflict in the literature regarding the training investment strategies of employers, such as investing heavily to avoid getting second-class results or a streamlined and produce cost-effective approach, and limit training aimed at longer term development. ProEnivro (2008) suggest that many of the skills required for a green economy identified by research relate to STEM skills; although they need to be increased in availability and adapted to new situations.

3.3.4 Certain sectors remain at core of low carbon strategy*:* particularly STEM related sectors, and the BE. There is a risk that green economy will be a sub-section of economy rather than inclusive of a wider range of sectors.

The literature presents a divided view, with green skills pertaining primarily to STEM skills, for a limited range of sectors, whereas EfS advocates a broader range of skills that can be applied across all professions and sectors. Sustainability literacy and skill needs must connect with students and graduates. Suggestions advocated by EfS include critical thinking, inter-disciplinary learning, collaboration, systems thinking, and alternative futures. These skills are required to advance a more circular and flexible economy. Despite the suggestion that there are major deficits in the skills needed for sustainability there is no evidence to suggest there has been a widespread skill analysis across all sectors of the economy (ProEnviro, 2008).

Supply chain pressures are a potential driver for change across all businesses. Business cite increasing need for sustainability literacy although green initiatives traditionally seen as barriers to growth. Interestingly, sustainability and green issues have long been viewed as barriers to economic success (HMG, 2011a), outside of environmentally focused industries. This has led to industries that are central to the green economy to rely on an ageing workforce[11]. Consequently England has a shortage of people with the necessary skills to deliver sustainable communities (ASC, 2007). Better quality professional guidance and training opportunities may improve recruitment and retention strategies[12]. In organisations where low carbon accounting and resource efficiency skills actions are taking place, they still are not being incorporated into general management practices on a widespread basis (ProEnviro, 2008).

3.4 Sustainability Skills – Education for Sustainability

3.4.1 Businesses identify leadership skills as the most important skill type to enable them to develop sustainability within their organisation.

The vast majority of businesses accept the need to transition to a sustainable economy (Ipsos Mori, 2010). Managerial skills are needed to manage resources more efficiently, change the business model and identify market opportunities (IBM, 2010).

- Business in the Community (2010) found that 70% of businesses view the development of leadership skills as one of the most pressing challenges for UK businesses in the next five years (BITC, 2010).
- 84% believe there is an urgent need to put leadership programs in place.
- 93% looking to develop sustainability skills in the five years (BITC 2010).
- 99% of businesses sampled in study by Ipsos Mori (2010) view leadership as integral for a sustainable economy.

The need for enhancement of leadership skills applies to senior, middle and customer facing staff (Ipsos MORI, 2010). The leadership skills entail identifying relevant social, economic and environmental trends that affect the business and look for ways to factor this into strategic decision making, thus require a more sustainability orientated skill set. EfS argues that classical leadership skills are not enough to transition to a green economy, whereas other businesses view 'classical leadership skills' as sufficient to to achieve transformational change (BITC, 2010). The broader EfS skills that emerged in the Ipsos MORI (2010) study include envisioning, inspiring, empowering, commercial awareness, working collaboratively, sufficient knowledge of sustainability issues, innovation, and communicating sustainability issues using clear accessible language. Managers also need sustainability orientated skills to make adequate use of skills their staff have attained.

The skills outlined above were seen as important by 704 employers that partook in a study by Ipsos-MORI (2010). Commercial awareness (89%), communication (88%) and vision (89%) were the highest rated skills to enable a business to transition to a sustainable economy. Although, the study found that different skills were prioritised for different roles, for example working collaboratively was seen as important at senior level and for customer facing staff[13].

Other skills for a green economy include strategic business planning, life cycle analysis, change management, investment modelling and management. Technical carbon accounting skills are also needed to assess impact and performance, including risk analysis, procurement, innovation and commercialisation.

[11] Women are also less likely to be found working in some growth sectors (Bird and Lawton, 2009)
[12] The Government have suggested that information on green careers and skills will be provided through the National Careers Service due to launch in April 2012 (HM, 2011b).
[13] Having sufficient knowledge was also important at middle management and for customer service staff.

The message coming out of this study is that businesses require a more critical and systemic approach when making business decisions. The skills mentioned are relevant to various sectors and functions including HR, marketing and communications, design and engineering and logistics (BITC, 2010). Leadership skills are also needed to raise awareness and communicate with client bases.

3.4.2 There are signs that businesses are pushing more for engagement, as employers with sustainability literacy anticipate the need to employ staff with sustainability literacy in the future workplace.

Two thirds (64%) are planning to do more with suppliers or business partners in the next five years (Ipsos-Mori, 2010), though 92% agree that businesses need to do more to prepare young people for the transition to a green economy. Interestingly businesses report the ability to work collaboratively with different stakeholders as the most important skill evidenced in their organisation (72%). However many businesses advocated the time commitments required for collaborative activities is an issue. When asked whether their organisation is currently engaged with HE, a third said yes (Ipsos-Mori, 2010). This needs to improve in order to meet the demands of future students, and provide opportunities to develop skills. Curriculum projects and work based learning activities should be linked to professional settings where students are exposed to real conflicts where they are required to evaluate and make decisions on sustainability scenarios. This will also enhance the development of sustainability profiles for employment. Particularly for companies that have a corporate social responsibility (CSR) policy and increasing sustainability focus. Although there is the perception that not much is being done; only 15% feel enough is being done on this issue within UK businesses. Around half (45%) feel that engaging with the future work force is necessary to develop skills (31% schools and 36% HEIs). Although there is suggestion that sustainability literacy is high on the agenda, in reality it is given little priority in the recruitment process (Sayce, 2008), the evidence also comes from research on the built environment sector.

However, from the literature, it is evident that there is a lack of placements that have a sustainability focus; more research is needed to ascertain supply and demand on this topic. It is reported that 67% of managers in the public sector would hire a candidate with strong soft skills even if there technical skills were lacking (Sayce, 2008). Strong generic skills are required for sustainability focused roles in public sector due to strained recruitment processes (ASC, 2007). The development of strong generic skills is linked to problems with skill and knowledge retention. This is reflected in the use of assessment of generic skills that are required for recruitment exercises typically used in public sector. Consequently, the private sector is better able to recruit attractive candidates.

3.5 Student Perspectives – Sustainability and Employability

To date there has been little dedicated research to explore student perspectives and interest in relation to the sustainability agenda and its implications regarding their employability skills and prospects.

The National Union for Students and the Higher Education Academy conducted research in 2011 on first year undergraduates in the UK, to assess their skills for sustainability literacy. The survey was substantial; covering 5,763 students across: Humanities, Written arts (1%), Mathematics, Earth Sciences (2%), Science and Mathematics (38%), Materials and Performance Arts (12%) and Vocational Training (21%) and other subjects (9%). Given the rise of the agenda at policy level, as outlined in previous sections, there is a national need to understand how student demand might inform future initiatives. This section briefly outlines the findings of that study, highlighting any connections with earlier reports in the area.

3.5.1 The vast majority of students felt that sustainability literacy should be something universities should actively encourage.

Students felt skills for sustainability literacy were at least partially covered in the curriculum, 77% either agreed or strongly agreed that their HEI practices and promotes good social and environmental skills, 66% agreed or strongly agreed that their course leaders practice and promote good social and environmental skills (Bone and Agomar, 2011). Variation in skills and sustainability knowledge was dependent on type of FE institution attended and current course attended in HE. The vast majority of students report conducting sustainability skills at least sometimes. However, it is worth noting that in this study the questions used did not appear to be inclusive of a broad range of sustainability skills, which possibly limits understanding about the prevalence and use of such skills.

3.5.2 Students tend to focus on environmental aspects of sustainability more than social and ethical components but also see the importance of soft skills that apply to all courses.

The softer skill details incorporated with EfS are of importance, and students prefer softer skills over skills regarding nature and ethics (Bone and Agomar, 2011). It was concluded that this was due to the transferability of soft skills across courses. The study found that a range of soft sustainability skills were regarded as relevant to their educational development (75%>), with exception to peoples relationship with nature. However, the sample is biased due to the disproportion numbers of students in science subjects. Additionally the study only used first year undergraduates which does not give insight across other educational levels.

The Sky Future Leaders study is a recent piece of research that highlights the growing demand for ESD (SKY, 2011). The study surveyed 751 graduate trainees, current and recently graduated MBA students, and high potential middle managers earmarked for leadership positions. Many of the results of the research are as expected. Environmental issues are growing in importance with nearly three quarters agreeing that sustainability can create new opportunities for business and just a fifth believing that sustainability has to come at the expense of profit. 96% of respondents plan to be involved with sustainability in their careers. However, there appears to be little conceptual understanding of the complexities of sustainability. Most respondents link the term predominantly to environmental action. The other two elements, societal and economic, do not receive much attention. More significant than both values and sustainability were promotion prospects and the financial package. This is shown even more strongly when discussing overall career goals. Creating social and environmental value (34%) is just off the bottom ranking only by the chance to work internationally (30%), and far behind job satisfaction (84%) and work life balance (78%). However, a third of respondents opting for creating social and environmental shows an increase from earlier studies in the area.

3.5.3 The majority of students think that sustainability should be incorporated into the curriculum rather than occupy an additional module.

Opportunities clearly exist for a shift in curricula and drilling don further into views across STEM and non-STEM subjects would uncover perceptions of relevance and perceived distance from the curriculum. STEM subjects are emphasised in the green economy and low carbon agenda, tangible benefits also need to be clear in other areas.

The NUS/HEA (2011) study found:

- Approximately 65% of students felt environmental and social skills should be intertwined with the curricular and material should be added to the course; however this was marginally more than those who selected the option to add a specific environmental and social skills module.
- Students value reframing of content to advance their subject knowledge, rather than using a module to teach sustainability skills.
- There is a perception from HE academic staff that EfS isn't relevant to all disciplines. To overcome this issue, an interdisciplinary approach is needed to embed sustainability in the course curriculum, especially with a known reduction in funding for non-STEM subjects (HMG, 2011a).

- Inclusion of expert sustainability professionals to engage with course content is needed to advance awareness and best practice.

3.5.4 The large majority of students indicated that they felt sustainability literacy will be important to future employers and that universities should prepare them for this.

80% of respondents fell into this category (Bone and Agmomar, 2011); however little explanation was given on 'why' they felt it was important. It could relate to the finding that students perceive development of sustainability skills to impact on their ability to perform well on their courses. The attitudes towards EfS were seen as important and relevant to most subjects. Skills pertaining to people's relationship with nature and ethics were regarded as less important. Relevance of other skills ranged from 75%-90>%, showing the demand for the development of sustainability skills in higher education. The importance of skills in the respondent's graduate fields also varied little by course. Written arts students felt it was important to analyse using many subjects, this formed a trend across questions. This study could have benefited from qualitative information to gain insight into student views on sustainability skill development within HE, this can highlight student concerns and allow for formalised strategic development.

Whilst Cade (2008) claimed employers are looking for sustainability literate graduates, other studies have not been able to support this, careers staff also suggested that sustainability literacy is unlikely to be a significant factor in recruitment over soft skills such as: teamwork, analysis, communication and problem solving, although it could be a distinguishing factor amongst graduates in the future (Grant, 2009). More research into sustainability careers guidance is required (Manley, C. and Whitford, 2008)

3.5.5 There is evidence of interest among students in working for responsible employers, which may be significant even in competitive graduate markets

Interestingly 63% of respondents from the NUS study (2011) report that they would sacrifice £1,000 from their salary to work for a responsible employer (Bone and Agomar, 2011), however these are first year students and we need to sample later years to see whether this applies when there is increased job pressure. This is due to increased pressure to obtain a graduate job in a tough graduate labour market. The study would benefit from a more diverse and equally balanced sample that reflects the student population. In response to a question addressing factors that are important to choosing an organisation to work for, how seriously the organisation takes global development (12%) and environmental issues (10%) were ranked the lowest, particularly for UK students (UCAS, 2008).

The NUS study built upon earlier indications from the UCAS studies (2006; 2008), although it has more of an emphasis on sustainability skills, and perhaps there is more student interest that a few years ago. There is an ongoing need to assess student's views, attitudes, demands and skills in relation to sustainability issues and literacy, particularly in the light of rising tuition fees. If universities have incomplete information, are misinformed or neglect to take account of student demands and employer needs for SD then market failure could occur.

3.5.6 A related, but underexplored issue concerns the influence universities can have on student attitudes and behaviours in sustainability outside the formal curriculum.

Although University practices on campus may not be critical to choice of University supported by a finding that indicates Inclusion of ESD alone isn't enough to attract students to a second choice institution (22% v 77%) (Bone and Agomar, 2011). There is little research on whether those Universities that are responsible employers impact on student perceptions and behaviours. More research is needed to gain insight into how universities will provide suitable WFL and employability focused opportunities to students in this area. Some students have made lifestyle and consumer choices that are regarded as more sustainable. In response to a question addressing the importance of numerous factors that were

important when choosing a university, how seriously the university takes global and environmental development issues ranked lowest (6% and 5%) (UCAS, 2008).

There appears to be some difference in the relative value placed on this agenda among UK and international students, although more research is needed in this area. When surveyed on their ethics and aspirations, a greater number of international students (Give %) than UK students (40%) thought that learning about sustainable development would help them get their job after university. Interestingly, in a small-scale informal survey of 21 students at an international cafe event at UoG in 2011, 20 stated that they saw the sustainability issue as 'very important' and 12 viewed it as particularly important in the context of their academic and professional lives. This indicates the need for more research, to explore differing perceptions around the agenda among students from across the globe.

Summary of Section 3

There is an apparent Gap in perception between 'green economy' and 'EfS' sustainability skills. Green economy skill agenda isn't inclusive of social and reflective elements such as values, ethics, social equity and inclusivity; rather it focuses on environmental and economic aspects. The gap between green economy and EfS is partially stems from a trade off between economic and environmental outcomes in the green economy. This is further exaggerated by an employer led skills system that is latent in connecting with student demand, and a wide range of skills advocated by EfS.

Given that these early studies show such interesting findings, the overall lack of research makes them hard to put in context, further studies are necessary. This led to the development of a survey of student views on these issues at the University of Gloucestershire to gain student perspectives from a wider educational level range pertaining to the link between employability and sustainability skills, the kind of issues that are connected to their courses and their recommendations improve these agendas in the HEI.

3.1.1 The shift to a knowledge economy requires that graduates demonstrate strong 'soft skills' as well as standard transferable skills and specialist professional knowledge

3.1.2 Several studies point to the disadvantage UK graduates will face unless they cultivate the global mindset and intercultural skills required to operate in increasingly globalised business environments

3.1.3 Government policy shifts during the economic downturn are leading to an increasingly employer led system as well as regionally based decision making, prompting the need for greater entrepreneurialism, flexibility and mobility in graduates.

3.1.4 The UK can only compete on high value sectors. This means that the UK has to be more knowledge intensive and innovative.

3.2.1 HE institutions have increased their range of employability initiatives and support for graduates, although there is varied evidence of success across the sector.

3.2.2 Employers are becoming more actively involved in the provision of employability opportunities for students including their engagement with the HE sector.

3.2.3 Small and medium enterprises are an untapped resource for the HE sector particularly in providing short-term projects; this could provide a balance between supply and demand in the graduate labour market.

3.3.1 There is a high demand for action on sustainability skills, collaborative approach required from government, business, HEIs and third parties.

3.3.2 The Government, employers and HEI's face difficulty cultivating balance between short term labour skills and long term sustainability skills. However, a distinction is needed for funding, support and policy purposes.

3.3.3 There is currently a culture of organisational risk aversion for businesses, particularly due to the recent recession and lack of economic growth. Businesses need commitment from government to transition to green economy.

3.3.4 Certain sectors remain at core of low carbon strategy*:* particularly STEM related sectors, and the BE. There is a risk that green economy will be a sub-section of economy rather than inclusive of a wider range of sectors.

3.4.1 Businesses identify leadership skills as the most important skills to enable them to develop sustainability within their organisation.

3.4.2 There are signs that businesses are pushing more for engagement, as employers with sustainability literacy anticipate the need to employ staff with sustainability literacy in the future workplace.

3.5.1 The vast majority of students felt that sustainability literacy should be something universities should actively encourage.

3.5.2 Students tend to focus on environmental aspects of sustainability more than social and ethical components but also see the importance of soft skills that apply to all courses.

3.5.3 The majority of students think that sustainability should be incorporated into the curriculum rather than occupy an additional module.

3.5.4 The large majority of students indicated that they felt sustainability literacy will be important to future employers and that universities should prepare them for this.

3.5.5 There is evidence of interest among students in working for responsible employers, which may be significant even in competitive graduate markets

3.5.6 A related, but underexplored issue concerns the influence universities can have on student attitudes and behaviours in sustainability outside the formal curriculum.

4. SURVEY FINDINGS

Building on the findings of the literature review, an internal survey was designed to explore student experiences and views around employability and sustainability at UoG. The intention was to take the national sector level findings and explore practical considerations around student perceptions of these agendas and their experiences of learning and skills development through their degree programs and in conjunction with their professional ambitions.

The survey was carried out over one month between December 2011 and January 2012, created through Survey Monkey and distributed online via the student email system to all students. A voucher of £50 was offered to encourage participation. The project used a structured survey primarily collecting quantitative data but enabling some free form responses (see Appendix C for the survey instrument). In the results that follow, question numbers indicated in brackets relate to specific survey questions as indicated in Appendix C. The total number of replies received was 406; this provided a valuable quantity for a moderately sized HEI and from different levels and subjects of study.

4.1 Demographic Profile of Sample

Table 2 Age brackets of respondents

21 and Under	56.20%	228
22 to 34	30.00%	122
35 to 44	7.40%	30
45 to 54	4.20%	17
55 to 64	1.50%	6
65 and Over	0.70%	3
Decline	0.00%	0
	Total	406

The majority of respondents were UK citizens, as shown in Table 3. The sample was therefore over- representative of UK students, and further information on the views of international students would be a priority for future research especially given the findings of UCAS (2008), and the British Council and Think Global study (2011).

Table 3: UK and International status of respondents

UK citizen studying in the UK	88.7%	360
International student within the EU	3.0%	12
International student outside the EU	8.4%	34
	Total	406

Reporting employment status is important due to the focus on employability skills in the research. The majority of respondents were either not employed or in part time work, as shown in Table 4.

Table 4: Employment Status

Full time	13.30%	54
Part time	34.50%	140
Casual work	17.00%	69
Not currently employed	35.20%	143
	Total	406

The survey sampled students across both UG and PG levels of study as shown in Table 4. This sample allowed for deeper critical analysis of student perceptions and experiences that that obtained in the NUS/HEA study reported in Section 3.5.

Table 5: Levels of Study

Level 1 Undergraduate	22.40%	91
Level 2 Undergraduate	20.70%	84
Level 3 Undergraduate	31.50%	128
Foundation degree	1.20%	5
PGCE	5.20%	21
Post graduate diploma	3.40%	14
Masters	9.10%	37
PhD	3.70%	15
Other	2.70%	11
	Total	406

4.2 Student Employability Experiences

The survey indicated that the majority of students are proactive in pursuit of employability experience, showing high demand for employment related learning (Q5). A map of student employability activity was provided through these responses, presented in Table 6, which shows the wide range of employability initiatives that students seek during their studies.

Table 6: Respondents selection of WBL in reference to organisation type

Answer Options	UoG	SME	Large company	Voluntary organisation	Other University	Training provider	Other	Activity total
Placement as part of studies	64%	9%	11%	8%	5%	2%	11%	54%
Unpaid work experience	33%	18%	9%	23%	4%	2%	23%	54%
Volunteering experience	35%	6%	5%	42%	2%	2%	22%	51%
Careers workshop	73%	4%	4%	2%	7%	1%	13%	36%
Workplace projects within modules	63%	11%	5%	5%	4%	3%	17%	33%
Professional mentor	61%	7%	9%	2%	7%	4%	16%	32%
Employability module	68%	6%	8%	2%	3%	2%	19%	29%
Professional development planning	59%	11%	11%	2%	6%	0%	21%	26%
Work-based learning through current employer	21%	23%	23%	1%	1%	8%	27%	25%
Funded internship	25%	11%	15%	8%	4%	2%	40%	17%
							Answered question	77%

Table 6 demonstrates that over 60% of respondents have experienced work based learning activities via the University such as: placement during studies, careers workshops, workplace projects within modules, professional mentoring, or employability modules professional development planning (PDP). This

demonstrates the central role of the University in coordinating a range of employability activities, as Table 6 above shows:

- Over half the sample (54%) experienced a placement as part of studies and 64% of those placement students experienced the placement through the UoG.
- The maximum total percentage participation in a WBL activity was 54% and the lowest 17%. This demonstrates the need for the University to engage in employer collaboration, and to find funding streams for WBL opportunities.
- Positively, there are large numbers of students gaining volunteering experience, particularly though voluntary organisations and the UoG. Unpaid work experience was undertaken at the UoG and SMEs most frequently; showing the valuable role SMEs have to play in providing WBL opportunities.
- SMEs appear to have low participation rates for placements, and careers work shop and volunteering. Further research could explore what factors prevent SMEs from engaging with HE.
- The lowest experience activity was funded internships; this is a particular concern in terms of employability for UoG students, especially as student demand far outweighs the supply for internships.

4.3 Employability Development

Findings on the next steps students wish to take to improve employability (Q11) are shown in Figure 1:

- More than half the sample rated careers guidance, placements, volunteering and skills workshops as the top priorities.
- Stand alone 'employability modules' (29%) were not a popular option, especially when compared with work place projects within modules (41%).
- Students show high demand for a range of employability schemes.

Additional student comments also give a strong steer on the value of professional activities, including mentoring, shadowing and direct engagement with industry. These comments also show the need for more information on progression and provision of opportunities, and the role of careers services.

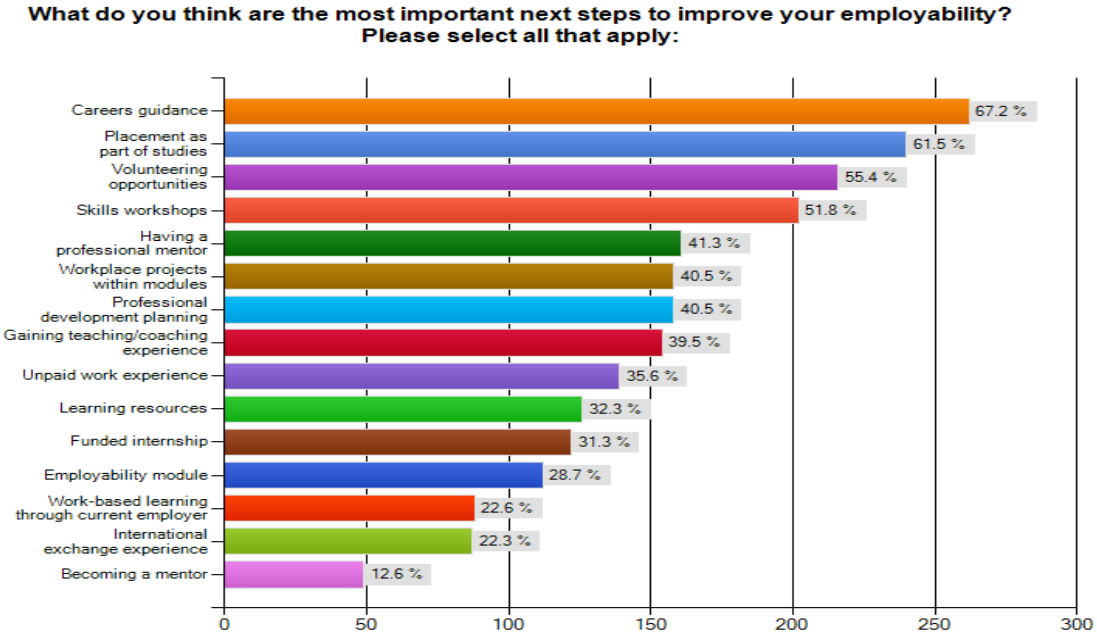

Figure 1 Student Views on ways to Improve Employability

A cross tab analysis was conducted on this question as it adds strategic value. Results suggest:

- Undergraduates place emphasis on careers guidance, placements and volunteering.
- An important distinction is seen between UGs and PGs, with UGs show more demand for volunteering opportunities than PGs
- PDP is of low value to undergraduates with only a third selecting it as an option to improve employability
- Postgraduates gave priority in PDP in developing employability, along with skills workshops and career guidance.

This study was focused on employability and not PDP per se and it should be noted that PDP has different meaning across courses and professions, in terms of its vocational elements, and whether it is embedded or a standalone portfolio. Further research could explore PDP relationships with course types and educational levels, particularly as students show high interest for work focused learning as part of the PDP.

A drill down into Undergraduate preferences for Q11 indicates the varied demand for employability actions. For many options, undergraduates were equivocal in their responses. However:

- Level 3 UGs considered careers guidance to be of more importance than Levels 1 and 2, this also applied to gaining teaching, coaching experience, professional development planning and funded internships showing a high orientation for employment search activities.
- Level 3 UGs show the most initiative for WBL opportunities to improve their employability.
- The higher demand for PDP from Level 3 students may indicate the increased pressure to get a graduate job that Level 3 students experience in relation to Level 2 students.
- Level 2 students consistently report a lower percentage than Levels 1 and 3, displaying a possible lack of priority or attention at this level of study. This could be due to an increased pressure to achieve academically at the expense of a wider range of employability schemes.

Table 7: UG Recommendations to Improve Employability

Answer Options	Level 1 Undergraduate		Level 2 Undergraduate		Level 3 Undergraduate		Response Percent	Response Count
Careers guidance	66	31%	58	27%	88	42%	72.10%	212
Placement as part of studies	69	35%	52	26%	77	39%	67.30%	198
Volunteering opportunities	67	36%	52	28%	68	36%	63.60%	187
Skills workshops	53	34%	48	31%	55	35%	53.10%	156
Workplace projects within modules	50	37%	40	30%	44	33%	45.60%	134
Unpaid work experience	44	35%	35	28%	45	36%	42.20%	124
Having a professional mentor	40	34%	32	27%	47	39%	40.50%	119
Gaining teaching/coaching experience	30	27%	29	26%	53	47%	38.10%	112
Professional development planning	34	32%	25	23%	48	45%	36.40%	107
Learning resources	33	33%	33	33%	34	34%	34.00%	100
Funded internship	27	28%	27	28%	41	43%	32.30%	95
Employability module	34	36%	26	28%	34	36%	32.00%	94
International exchange experience	27	40%	12	18%	28	42%	22.80%	67
Work-based learning through current employer	20	34%	17	29%	22	37%	20.10%	59
Becoming a mentor	16	37%	12	28%	15	35%	14.60%	43

							Total	294

Table 8 Postgraduate Recommendations to Improve Employability

	Postgraduate diploma	Masters	PhD	Response Percent	Response Count
Professional development planning	8	19	7	54.0%	34
Careers guidance	6	18	8	50.8%	32
Skills workshops	5	20	6	49.2%	31
Having a professional mentor	6	16	7	46.0%	29
Gaining teaching/coaching experience	3	13	10	41.3%	26
Placement as part of studies	4	15	4	36.5%	23
Funded internship	2	16	4	34.9%	22
Work-based learning through current employer	5	14	2	33.3%	21
Volunteering opportunities	4	11	5	31.7%	20
International exchange experience	2	12	5	30.2%	19
Workplace projects within modules	4	13	0	27.0%	17
Learning resources	2	10	3	23.8%	15
Unpaid work experience	2	4	3	14.3%	9
Employability module	1	5	2	12.7%	8
Becoming a mentor	0	4	0	6.3%	4
				Total	63

4.4 Career Goals and Values

Q5 concerning WFL experiences and Q10 indicating students recommended steps to improve employability can be triangulated with career goals and values. This gives more a more holistic view of the mindset of current students, and focus to the employability strategy.
This survey blended sustainability oriented factors with other more common factors used in employability surveys, using ranking to provoke decisions on priorities (Q6). Table 9 below shows the top three choices (with rankings of an overall 10) and a more comprehensive table can be found in Appendix D, which provides ranked data from 1st to 10th.

Table 9 Ranked Choices of Career Goals and Values

Answer Options	1st	2nd	3rd	Count	Total	Percent	Rank
Intellectual development	84	66	66	216	383	56%	1st
Work life balance	104	63	40	207	382	54%	2nd
To achieve a high salary	32	61	68	161	374	43%	3rd
Creativity and innovation	61	58	40	159	395	40%	4th
Good promotion opportunities	32	49	67	148	374	40%	5th

The findings create a picture of student aspirations in pursuing continuous professional development and achieving work-life balance as well as financial security. With creativity and innovation ranking highly (4th) this signifies that the respondents have the mindset to work in a high value economy and are receptive to skill development and change.

Several sustainability factors placed lower in the rankings, including: contributing to environmental change (Xth), working for an ethical employer (Xth) and supporting economic regeneration (10th). There was low interest in working internationally (Appendix D). Having a chance to work internationally was ranked 10th more frequently than other factors (see Appendix D). A low percentage of students on Q11 also recommended international exchange as a step to improve their employability. (See Table X). This dual evidence is important for the sector, given the findings in the report 'global skills in review which strongly stresses the importance of gaining a global perspective. For this study, students may be either unaware of international opportunities or these are not being provided.

4.5 Employability and Sustainability Skills

This section used two questions. Q8 asked the respondents to rate the importance of the skill for building sustainable societies. The question forced students to choose from a mix of sustainability with more commonplace skills

The questions were designed to get an initial perspective on student perceptions, even if results can be interpreted in various ways. Reflectively, factors that rank lowest should be further explored, as it is likely that students have less application and understanding of these skills.

Q8 asked students for their views on the skills needed to address sustainability issues across society (Q8). Results demonstrate:

- Futures thinking, critical thinking and intercultural thinking were rated highly; this is positive indication that students value these skills for building sustainable societies.
- Creative problem solving, innovation and teamwork were rated as the top three skills for building sustainable societies.
- Stakeholder engagement and systems thinking were given little importance suggesting students are unaware of the value of these skills for building sustainable societies.

Q9 looked to establish whether sustainability skills were being developed on courses (in addition to employability skills) and results showed that:

- It is evident that students feel that critical thinking is being taught effectively on their courses, although the results are not indicative, of which courses this might be[14].
- The three skill deficits reported were commercial awareness[15], stakeholder engagement and systems thinking[16]. The low rating of these skills may pertain to a lack of understanding of the terminology.
- Creative problem solving, team work and critical thinking were rated highly for both Q8 and Q9. It appears that the use of these skills could provide steps towards collaboration with other courses, through knowledge exchange and problem solving activities.
- Across Q8 and Q9 stakeholder engagement and systemic thinking had low ratings.
- There was more dispersion between responses than Q9.

The survey also had a focus on connections between the courses and sustainability issues (Appendix X). Notable insights include:

[14] It was decided not to ask students what course or faculty they belonged to as the University doesn't offer a significant amount of STEM subjects, other variables such as level of study were preferred.
[15] The deficit in commercial awareness and leadership fits the trend for student perceptions of skill development
[16] Interestingly students rate systems thinking in a low position, despite the skill being considered a branch of problem solving and critical thinking. Students should be encouraged to look at problems in a systemic way to integrate this mindset into their strong skills such as critical thinking and creative problem solving.

- Leadership and managing change had the strongest connectivity with student courses.
- Corporate Social Responsibility ranked 5th indicating that students are aware of CSR.
- Human rights, equality and social justice were the rated 1st most frequently, suggesting that this theme has strong connections with some degree programmes.
- The low ranking of several issues such as consumerism and ethical trade, globalisation of trade, managing natural resources, and alternate economic systems supports the commercial skill deficit reported in question 9.
- Although leadership and managing change was ranked 1st it wasn't ranked in the top five skills developed through studies (Appendix D).
- 45% of respondents saw strong or fairly strong connections across all issues.

In judging the responses to this question, care should be taken to over prescribe the percentage of total responses across all issues. It is unlikely that all issues will take precedence across all degree fields; the fact that at least 10% selected 'strong connections' for all issues supports this.

4.6 Sustainability Skills and Careers

It is important to make the connection between sustainability skills and student perceptions of how they related to employment markets. Results suggest that 60% view sustainability skills as being fairly or very influential on future graduate employment markets (See Figure 2).

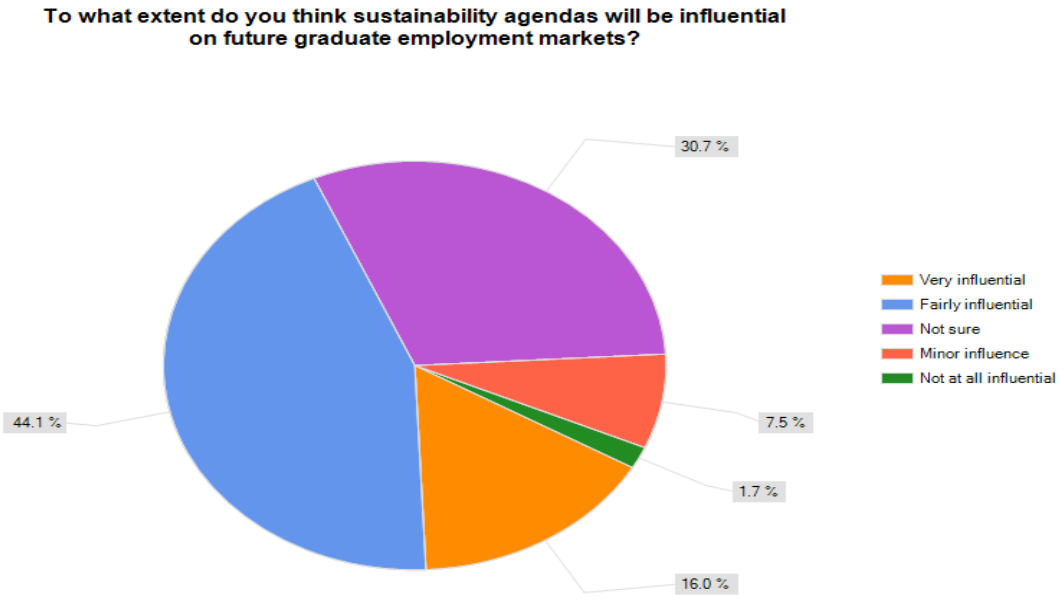

Figure 2 Distribution of responses on Likert Scale

4.7 Student Recommendations on Sustainability

Students were asked to give their recommendations to improve their sustainability skills. This question is particularly important for dissemination purposes as it highlights key strategic priorities for the UoG. Figure 3 below indicates that students consider a diverse range options to build skills for sustainability.

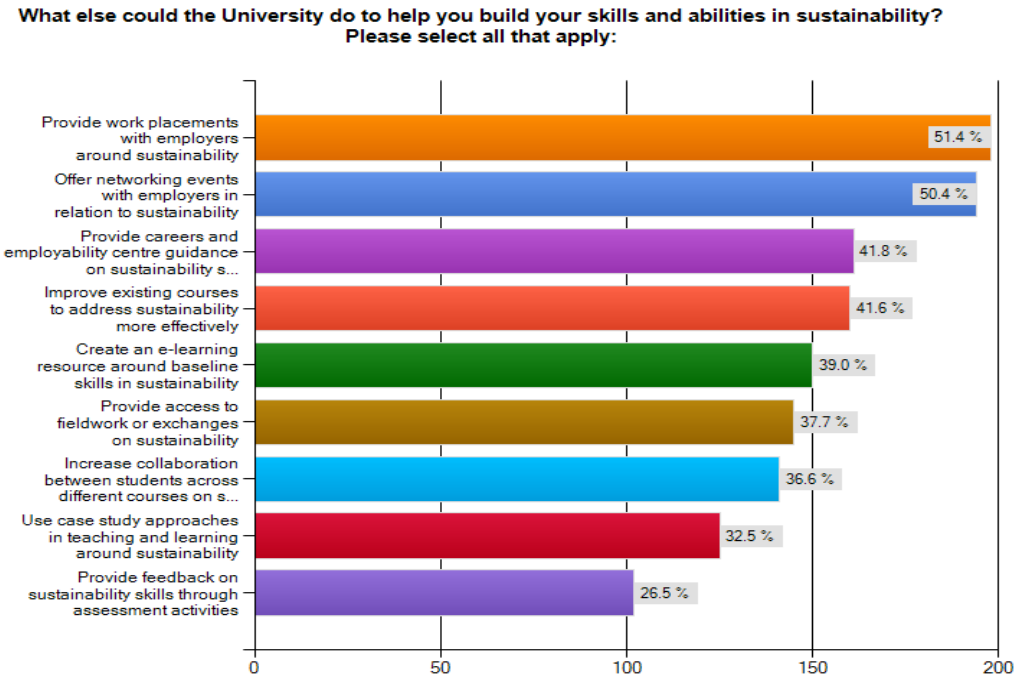

Figure 3 Student recommendations to improve sustainability

Students were asked to provide comments and suggestions to supplement quantitative data. The following are individual responses and not collective themes. Some of the key comments include:

'Not to make sustainability an overpowering theme in a subject to take away from a student's reasons to choose it in the future', '*Only apply sustainable input where it is necessary, not for the sake of it*',

For teaching and learning purposes it might be useful to use an active learning approach to developing skills and awareness, through '*provision of workshops'* and by '*providing bite size skills courses with specific focus for student's career path*.'

A further quote asked the University to 'Consider *post graduate community support in a more focused and deliberate way'*, which could apply across all student levels. The following comments can also be applied across universities '*Participating in sustainability forums with guest speakers*'; '*engaging employers on campus through sustainability agendas*'; '*encourage students to attend sustainability events'*.

Cross tab analysis was used to understand demands from segments of the student cohort. Tables 12 and 13 below suggest:

- Undergraduates are more concerned with careers and employability advice on sustainability skills, in comparison with postgraduates.
- Over half of postgraduate respondents would like to see an e-learning resource baseline around sustainability skills; this might be due to a larger amount of PG's studying part time or through distance learning.
- Across other factors, UGs and PGs are equivocal in their responses. This can increase confidence in strategic provisions as the meet the needs of different educational levels.

Table 10 Undergraduate Recommendations to Improve Sustainability

Offer networking events with employers in relation to sustainability	51.9%	150
Improve existing courses to address sustainability more effectively	41.5%	120
Increase collaboration between students across different courses on sustainability	36.0%	104
Create an e-learning resource around baseline skills in sustainability	35.3%	102
Provide feedback on sustainability skills through assessment activities	28.0%	81
Provide work placements with employers around sustainability	54.3%	157
Provide access to fieldwork or exchanges on sustainability	38.4%	111
Provide careers and employability centre guidance on sustainability skills	45.0%	130
Use case study approaches in teaching and learning around sustainability	31.5%	91

Table 11: Postgraduate (Diploma, Masters[17] and PhD) Recommendations to Improve Sustainability

Offer networking events with employers in relation to sustainability	54.1%	33
Improve existing courses to address sustainability more effectively	39.3%	24
Increase collaboration between students across different courses on sustainability	42.6%	26
Create an e-learning resource around baseline skills in sustainability	55.7%	34
Provide feedback on sustainability skills through assessment activities	29.5%	18
Provide work placements with employers around sustainability	49.2%	30
Provide access to fieldwork or exchanges on sustainability	41.0%	25
Provide careers and employability centre guidance on sustainability skills	36.1%	22
Use case study approaches in teaching and learning around sustainability	37.7%	23

Summary of Section 4

The survey indicated that students are proactive in pursuit of employability experience, showing high demand for employment related learning. Cross-tab data shows how priorities differ for students depending on their level of study. Clearly, there is a wide range of work focused learning experience, although there is a long way to go in achieving a higher employability profile for the UoG. Final year students show more initiative for work focused learning activities, particularly those that are directly related to employment searches. Positively, there are large numbers of students gaining volunteering experience, particularly though voluntary organisations and the UoG, although more opportunities could be developed through SMEs.

Several sustainability factors figured lower in the rankings, although it is evident that students feel that critical thinking is being taught effectively on their courses. The three skill deficits reported were commercial awareness, stakeholder engagement and systems thinking. The deficit in commercial awareness and leadership skills fits the trend for student perceptions of skill development.

The lack of understanding and implementation of systemic thinking and stakeholder engagement is a priority for EfS educators, particularly if the UoG wishes to provide its graduates with distinctive sustainability skills in the graduate market. There could be a terminology issue regarding some of these sustainability skills. There is also an emerging trend that students wish to innovate; this was a career goal and highly valued for building sustainable societies, although it wasn't being effectively developed through their studies.

Students consider a diverse range options to build skills for sustainability. The results produce evidence that students are setting their professional ambitions on sustainability initiatives in an employability

[17] Note that a weighted sample was not used; although results reflect the population makeup.

context. Results suggest that 60% view sustainability skills as being fairly or very influential on future graduate employment markets. For future research, it would be interesting to know about views from different industries and professions, and perhaps to learn from alumni about their post-graduation experiences.

5. CONCLUSION

On balance, the survey findings support many findings that emerged from the literature review. Students show a high demand for employability schemes, and what was significant was the range of work-focused learning activities that students are prepared to invest their time in. Furthermore, the findings support the idea that sustainability can align with employability in HE. Students encouraged the University to improve sustainability skill provision, which supports the NUS (2011) study findings. There was an indication in the literature (SKY 2011) and in the UoG student survey, that some traditional career goals are ranked more highly than sustainability concerns, but there are overlaps and possible interpretation gaps here that would benefit from further qualitative inquiry.

Employability schemes can improve skills in commercial awareness, leadership and professional reflection, which were important in the literature review and were lacking in the student survey. Collaboration is required to develop these skills, requiring universities to conduct stakeholder analysis in order to align with different business models. The conclusive finding was the demand for placements and other forms of work-focused learning, particularly as employers will not take on candidates unless they have relevant work experience. This reinforces the need to increase collaboration with employers, which is likely to increase business confidence in the sustainability agenda and help businesses to place pressure on government to fund sustainability skill provision.

There were several messages around specific skill areas for employability and sustainability:

- Problem solving and innovation were highly regarded by students. Employers value these skills as essential in designing new products and services for the green economy and for maintaining a high value economy. However, students felt courses were not very effective at developing innovation, although they did value it for sustainability and saw it as important for their careers (ranked 6th with 2.00 rating). Degree programmes need to find ways of allowing students to derive benefit from the knowledge and skills they develop, perhaps through short-term innovation projects within their subject disciplines.

- Stakeholder engagement is highly regarded in EfS and by employers, who need graduates that can analyse stakeholder needs across industries and sectors, but it but scored low with students as a skill for sustainability, suggesting a lack of student understanding in this area.

- Courses were perceived as fairly ineffective for developing inter-cultural awareness, but the viewpoint from the literature emphasised this for graduates' global skills and the student survey showed that students rate this skill for sustainability. This point relates to the issues uncovered about lack of understanding around the term 'stakeholder engagement', which is widely used in EfS but can be interpreted very differently in various subject and professional contexts.

- Systemic thinking is also a vital skill that needs to be addressed and which is linked with stakeholder engagement, critical thinking and creative problem solving. Sustainability skills such as systemic thinking are rare (IBM, 2010), so graduates with these skills could be well positioned in the labour market if they also have excellent soft skills, developed through work-focused learning. However, the survey found that systemic thinking was not developed effectively through studies, nor did a high percentage see its importance for sustainability.

- Critical thinking was perceived as being effectively developed by studies, which suggests that EfS educators could build toolkits around this skill. This would help to explain how systemic thinking and creative problem-solving are connected with critical thinking, as students are typically assessed on their ability to be critical across a number of degree areas.

Taking on board these findings may help to boost motivation in the student cohort to purse the development of sustainability skills and give academic staff some strategies for dealing with learning and skills development in these two strategic areas. Students need support to see the connections between societal, environmental and economic systems and to understand their personal abilities in connection with the ways that their subject disciplines tackle these issues.

There is a need to generate more awareness of sustainability skills and to continue researching and developing ways to implement them in different degree programmes. Overall, students seemed to rate many sustainability skills highly but they do not see these skills being recognised or addressed in their formal studies. This level of engagement among students supports the idea that sustainability has relevance in all subjects so that students can better understand the consequences of not connecting environmental, social and economic factors in their studies and professional lives.

Overall, this project points to three key messages for the University of Gloucestershire:

1. A majority of students across all educational levels viewed sustainability as important for future graduate employment markets, and employers need innovative, informed graduates in this area. The 'green economy' discourse is limited, technical and STEM-focused, which leaves many businesses unsure about how to respond to their key sustainability issues.

2. Students do not approach sustainability in a compartmentalised way; it is perceived as strongly connected to their employability and all related skills development provision and opportunities during their university studies.

3. Students wish to see courses improved to address sustainability skills and issues, supported through co-curricular activity such as: e-learning resources, placements and field work in sustainability, collaboration with students from other courses, case study approaches in the curriculum, and use of campus sustainability practices as learning resources.

6. RECOMMENDATIONS

Recommendations for the University of Gloucestershire

- **The University should continue to improve the integration of activities across its careers service and employability support, including DegreePlus, placements, mentoring, PDP, achievement records and the Employable Gloucestershire Graduate Scheme.**

- **The University should look at ways to refine its employability activity focus to respond to students' professional needs and learning patterns, for example:**

    - Recognising the different levels of student attention to employability at different stages of study and reminding Level 2 students of the importance of employability;
    - Conducting research into students PDP/CPD and the relationship with course types (particularly vocational versus non-vocational);
    - Improving the provision of e-learning resources for employability, as students spend a vast amount of time on the internet and seek 24/7 access;
    - Re-evaluating the role of the PDP in helping students to set goals and find work-focused learning opportunities that employers and professions value.

- **The University should look at ways to connect its sustainability work with its employability activities, for example:**

- Using DegreePlus to increase internships and volunteering around sustainability:
  i) *externally*, in collaboration with the RCE Severn partnership organisations; and ii) *on campus*, linked to the University's sustainability and volunteering activities;
- Embedding sustainability skills into role descriptions for DegreePlus placements, skills workshops and other work-focused learning activities in professional settings, which will enhance the development of sustainability profiles for employment;
- Showing how baseline sustainability skill definitions and criteria apply in relation to specific subjects in the curriculum, particularly for postgraduate courses;
- Exploring the potential for placement opportunities with sustainability focus that can improve global perspectives and international skills;
- Supporting course leaders to offer dissertation research and projects in collaboration with sustainability educators and professionals in other subject areas, which will help develop the staff research profile of the University in this area.

Recommendations for the Sector

- The HEA could improve the provision of e-learning and toolkit resources for students that link sustainability with employability in each subject, using its Subject Centre resources.

- The HEA could bring together its previous funded projects in Employability and in Education for Sustainable Development to help develop baseline skill definitions in this area.

- The HEA could develop or promote case studies in specific industries that demonstrate the practical ways that professions engage with sustainability.

- Key sector agencies could collaborate to create leadership development materials that combine soft skills and sustainability skills in relation to 'real world' issues.

Appendix A: Abbreviations used in report

AGR	Associate of Graduate Recruitment		IPPR	Institute for Public Policy Research
ASC	Academy for Sustainable Communities		NUS	National Union of Students
BIS	Business in Society		OECD	Organisation for Economic Co-operation and Development
BITC	Businesses in the Community		PROP	Putting Research Outcomes into Practice
CBI	Centre for Business Innovation		R&D	Research and Development
CIHE	Council for Industry and Higher Education		SCRE	Scottish Council for Research in Education
CSR	Corporate Social Responsibility		SD	Sustainable Development
DIUS	Department of Innovation Universities and Skills		SKTP	Short Knowledge Transfer Partnership
DLHE	Destinations of leavers from Higher Education		SME	Small Medium Enterprise
DLHE	Destination of Leavers from Higher Education		SSC	Sector Skill Council
EfS	Education for Sustainability		STEM	Science Technology Engineering and Mathematics
EGS	Environmental, Goods and Services		UCAS	Universities and Colleges Admissions Service
ESD	Education for Sustainable Development		UK	United Kingdom
FE	Further Education		UKCES	UK Commission for Employment and Skills
GDP	Gross Domestic Product		UNEP	United Nations Environment Program
GE	Green Economy		UTC	Universities that Count
HE	Higher Education		UUK WBL	Universities UK Work Based Learning
HEA	Higher Education Academy		WFL	Work Focused Learning
HEFCE	Higher Education Funding Council for England			
HEI	Higher Education Institution			
HESA	Higher Education Statistics Agency			
HMG	Her Majesty's Government			
HR	Human Resources			
IES	Institute for Employment Studies			

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Appendix C: Survey Questions

1. Please select your age range:

2. Please indicate your level of study:

3. Please select your current employment status:

4. Please state whether you are a UK student or an international student:

5. Have you experienced any work-focused learning activities during your studies? Please select the options that apply.

6. Please rank the following in terms of your career goals and values:

7. Do you see connections between any of the sustainability issues outlined below and your area of study?

8. How important do you think the following skills and attributes are for helping to build more sustainable societies?
Please rate the following skills:

9. To what extent do you feel that your studies are effective at addressing the following key skills and attributes? Please rate the following skills:

10. To what extent do you think sustainability agendas will be influential on future graduate employment markets?

11. What do you think are the most important next steps to improve your employability? Please select all that apply:

12. What else could the University do to help you build your skills and abilities in sustainability? Please select all that apply:

Appendix D: Survey Data Tables

Q6.

Answer Options	1st	2nd	3rd	Count	Total	Percent	Rank
Intellectual development	84	66	66	216	383	56%	1st
Work life balance	104	63	40	207	382	54%	2nd
To achieve a high salary	32	61	68	161	374	43%	3rd
Creativity and innovation	61	58	40	159	395	40%	4th
Good promotion opportunities	32	49	67	148	374	40%	5th
Contributing to social change	34	27	29	90	374	24%	6th
Chance to work internationally	24	30	28	82	381	22%	7th
Contributing to environmental change	8	17	19	44	382	12%	8th
Employer's ethical stance	6	13	21	40	379	11%	9th
Support economic regeneration	2	5	8	15	382	4%	10th

Q7.

Answer Options	Strong	Fairly strong	Unsure	Fairly weak	No connections	Ranking	Total response
Leadership and managing change	26%	41%	16%	12%	4%	1st	395
Human rights, equality and social justice	30%	36%	12%	13%	8%	2nd	393
Cultural diversity and heritage	26%	38%	13%	15%	8%	3rd	392
Health and wellbeing	32%	30%	13%	13%	11%	4th	391
Corporate social responsibility	23%	34%	21%	13%	8%	5th	392
Community resilience	17%	34%	21%	14%	14%	6th	386
Peace, security and conflict resolution	16%	32%	18%	17%	17%	7th	394
Consumerism and ethical trade	15%	26%	22%	18%	19%	8th	384
Globalisation of trade	17%	22%	18%	19%	23%	9th	391
Managing natural resources	18%	19%	18%	18%	27%	10th	388
Poverty alleviation	10%	26%	19%	22%	23%	11th	391
Climate change	17%	18%	13%	25%	27%	12th	393
Alternative economic systems	10%	23%	20%	22%	26%	13th	388

Biodiversity	13%	14%	26%	17%	31%	14th	390
Infrastructure and transport	10%	21%	17%	22%	30%	15th	389
Food security	10%	16%	21%	20%	34%	16th	392

Effectiveness of Studies in Addressing Skills

	Very effective		Fairly effective		Neither effective nor ineffective		Fairly ineffective		Very ineffective		Rating Average	Count
Critical thinking	216	54%	144	36%	22	6%	12	3%	3	1%	1.59	397
Degree-specific expertise	196	50%	148	38%	37	9%	9	2%	4	1%	1.67	394
Creative problem solving	186	47%	143	36%	57	14%	5	1%	6	2%	1.75	397
Team working	193	49%	142	36%	31	8%	23	6%	6	2%	1.75	395
Professional reflection	178	45%	146	37%	50	13%	15	4%	5	1%	1.79	394
Futures thinking	143	36%	169	43%	49	12%	25	6%	7	2%	1.94	393
Innovation	143	36%	145	37%	71	18%	28	7%	8	2%	2.02	395
Leadership	120	30%	162	41%	75	19%	23	6%	17	4%	2.13	397
Intercultural awareness	115	29%	143	36%	83	21%	31	8%	20	5%	2.23	392
Commercial awareness	69	18%	155	40%	110	28%	45	11%	13	3%	2.43	392
Systems thinking	56	14%	144	37%	135	35%	34	9%	21	5%	2.54	390
Stakeholder engagement	41	10%	98	25%	147	37%	50	13%	57	15%	2.96	393
											Total	399

Importance Rating for Building Sustainable Societies

Creative problem solving	248	63%	120	31%	19	5%	6	2%	0	0%	1.45	393
Innovation	249	63%	120	30%	20	5%	4	1%	1	0%	1.45	394
Team working	252	64%	113	29%	25	6%	5	1%	0	0%	1.45	395
Futures thinking	224	57%	145	37%	21	5%	3	1%	1	0%	1.51	394
Critical thinking	213	54%	141	36%	32	8%	6	2%	0	0%	1.57	392
Leadership	190	49%	155	40%	40	10%	3	1%	3	1%	1.65	391
Intercultural awareness	201	51%	145	37%	34	9%	11	3%	3	1%	1.65	394

Commercial awareness	139	35%	194	49%	49	13%	8	2%	2	1%	1.83	392
Professional reflection	136	34%	174	44%	66	17%	19	5%	1	0%	1.93	396
Systems thinking	103	26%	184	47%	88	22%	13	3%	4	1%	2.06	392
Degree-specific expertise	90	23%	206	52%	73	19%	19	5%	6	2%	2.10	394
Stakeholder engagement	87	22%	152	39%	107	27%	40	10%	7	2%	2.31	393
											Total	398

Q11.

What do you think are the most important next steps to improve your employability? Please select all that apply:		
Answer Options	Response Percent	Response Count
Skills workshops	51.8%	202
Careers guidance	67.2%	262
Learning resources	32.3%	126
Volunteering opportunities	55.4%	216
Becoming a mentor	12.6%	49
Having a professional mentor	41.3%	161
Gaining teaching/coaching experience	39.5%	154
Funded internship	31.3%	122
Placement as part of studies	61.5%	240
Unpaid work experience	35.6%	139
Workplace projects within modules	40.5%	158
Employability module	28.7%	112
Work-based learning through current employer	22.6%	88
Professional development planning	40.5%	158
International exchange experience	22.3%	87
Other (please specify)		13
answered question		390
skipped question		16

Q12.

What else could the University do to help you build your skills and abilities in sustainability? Please select all that apply:		
Answer Options	Response Percent	Response Count
Offer networking events with employers in relation to sustainability	50.4%	194
Improve existing courses to address sustainability more effectively	41.6%	160
Increase collaboration between students across different courses on sustainability	36.6%	141
Create an e-learning resource around baseline skills in	39.0%	150

sustainability		
Provide feedback on sustainability skills through assessment activities	26.5%	102
Provide work placements with employers around sustainability	51.4%	198
Provide access to fieldwork or exchanges on sustainability	37.7%	145
Provide careers and employability centre guidance on sustainability skills	41.8%	161
Use case study approaches in teaching and learning around sustainability	32.5%	125
What else could the University do to help you build your skills and abilities in sustainability?		25
answered question		385