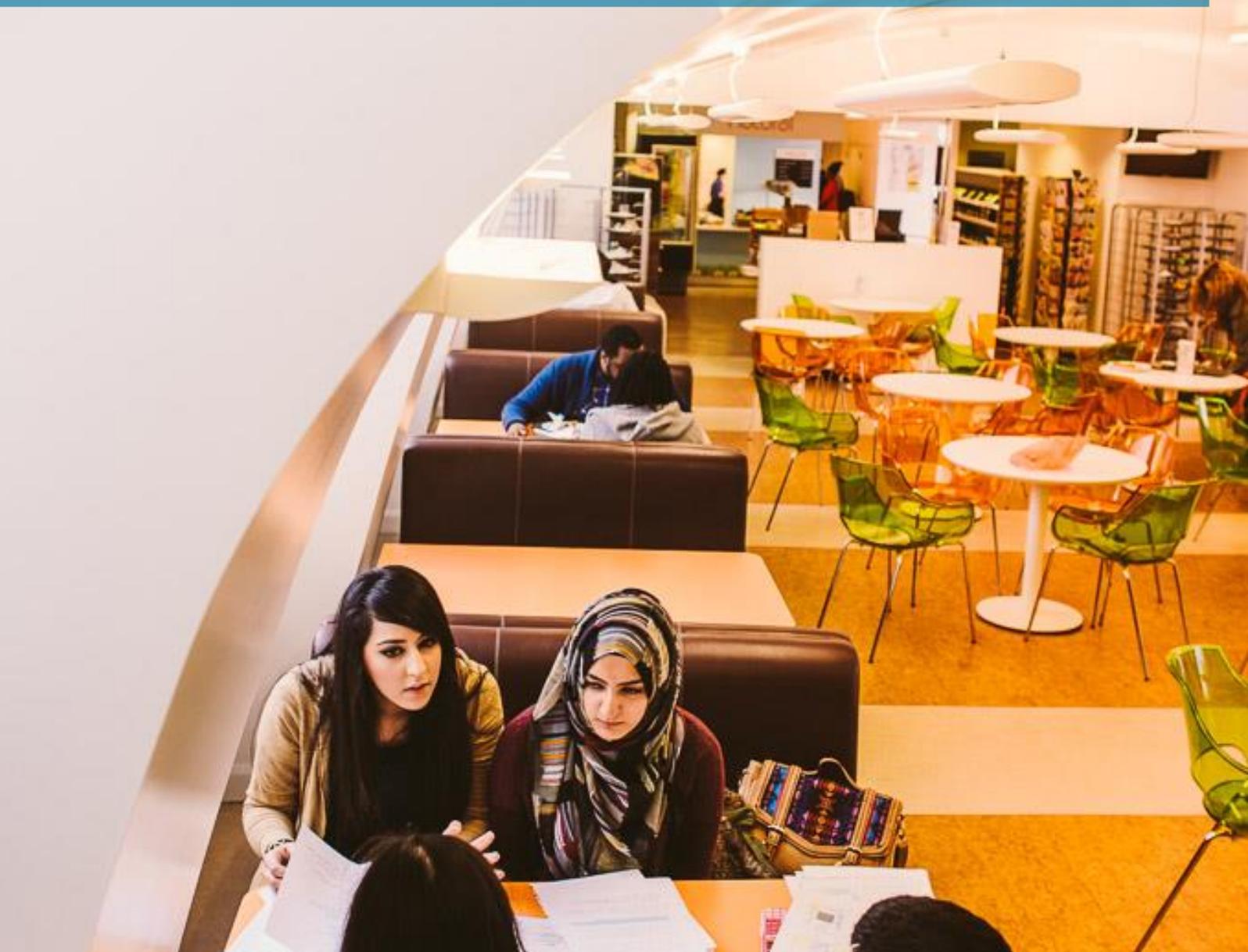


Student attitudes towards and skills for sustainable development

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Executive summary

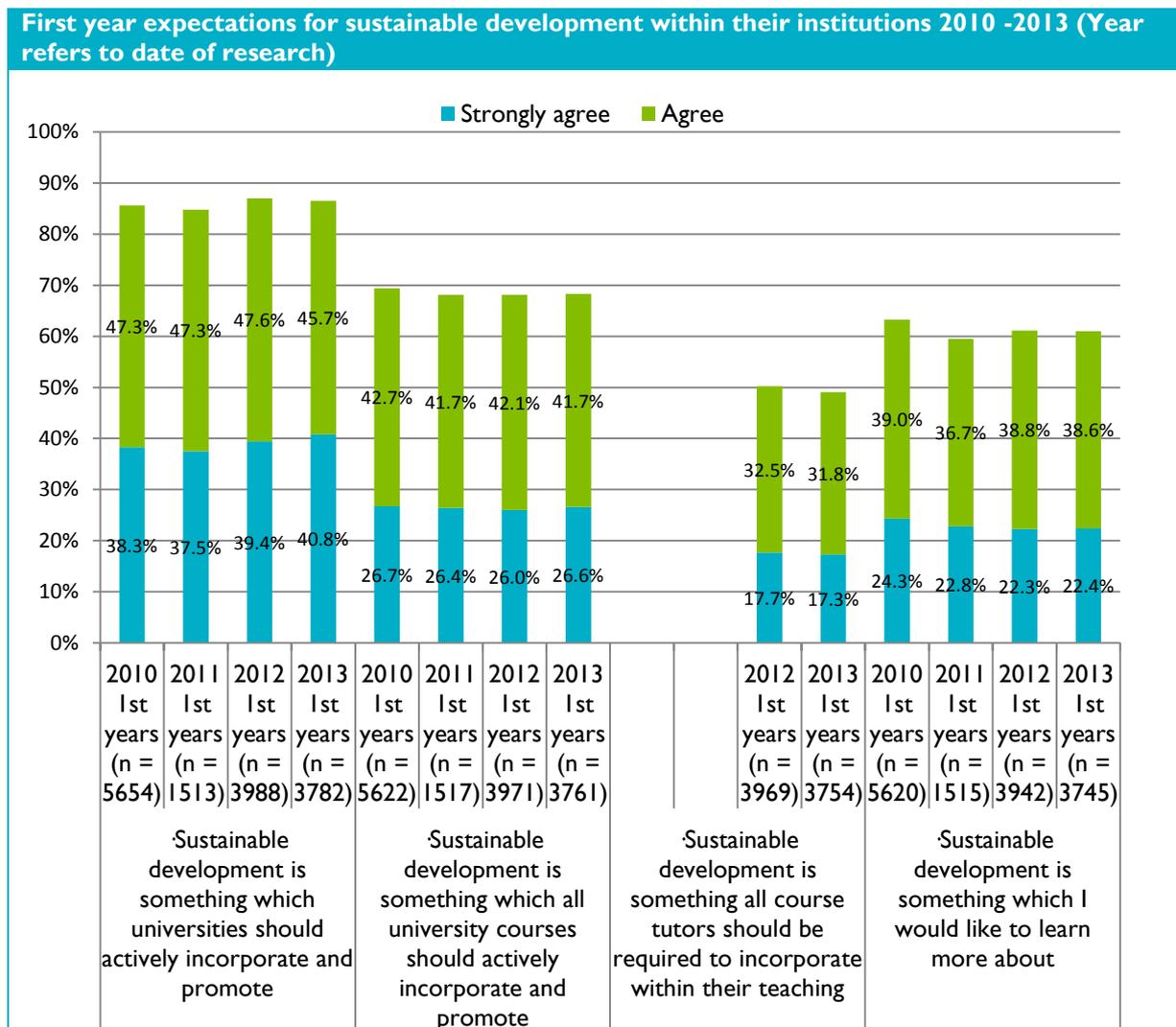
Research into student attitudes towards, and skills for, sustainable development (SD) was conducted for a fourth consecutive year in 2013. This annual study:

- Updates our understanding on student attitudes towards, and skills for, sustainable development through 3845 first-year and 1747 second-year respondents in academic year 2013/14.
- Identifies trends in demands and expectations from first-year students new to university.
- Tracks longitudinal demands and expectations from first-year students as they progress through their university career.
- Analyses the longitudinal variability in 21,304 student responses between 2010 and 2013.

Surveys were designed for first and second-year students. The content repeated the previous questions to capture comparable longitudinal data. There was no reference to sustainable development in its promotion to reduce bias. Responses were weighted to reflect the demographic makeup of the UK student population.

I. Key findings

The current research findings reinforce the main findings of the previous three waves of research, providing a remarkably stable set of data given the significant changes that have occurred in English higher education, a fluctuating economy and graduate employment. Overall, the results for first and second-year students in 2013 showed no notable differences except where highlighted in the full report.



- 1 Eight in every ten students consistently believe that SD should be actively incorporated and promoted by universities, and this increases as respondents progress through their studies. International students are significantly more likely to agree that action should be taken by universities in this way;
- 2 Over two thirds of respondents consistently believe that SD should be incorporated into all university courses;
- 3 Over 60% of domestic students would like to learn more about sustainable development, rising to three quarters of international students;
- 4 There is a continued desire amongst students for a reframing of curriculum content, rather than additional content or courses;
- 5 Skills development is also high on the agenda with over two thirds of first-year respondents consistently agreeing that universities should be obliged to develop their sustainability skills as part of their course;
- 6 At the same time, maintaining and developing links with employers remains increasingly relevant to students with internships increasingly seen as a method of further skills development;
- 7 Approximately two-thirds of students would be willing to sacrifice £1000 from an average graduate starting salary to work for a company with a positive social and environmental record, whilst over two-fifths would be willing to sacrifice £3000.
- 8 Significantly more respondents are willing to make a £3000 sacrifice from their starting salary for a specific role that contributes to positive social and environmental change.

2. Recommendations

Based on the findings of this longitudinal study, the following recommendations apply:

Students and students' unions should:

- Continue to work with course representatives to raise the importance of SD in the formal curriculum;
- Build on the outcomes of the HEFCE NUS Student Green Fund to, in partnership with their institution, create quality informal curricular activities that develop sustainability skills;
- Encourage their institutions to take a holistic approach to SD, ultimately embedding it into their core purpose through their teaching and learning, ensuring it becomes a graduate attribute.

Academics should:

- Continue to engage with students, students' unions, senior management and operational staff to integrate SD across the student learning and university experience;
- Conduct interdisciplinary teaching and research across their institutions and the HE sector that demonstrates the relevance of SD to a students' academic studies;
- Make use of the Quality Assurance Agency (QAA) and HEA 'Education for sustainable development guidance'¹.

Higher education institutions (HEIs) should:

- Continue to encourage academic staff to develop formal and extra-curricular resources for sustainability and employability skills relevant to their discipline;
- Continue enterprise work with employers and professional bodies to develop the skills and knowledge needed for business opportunities in an emerging sustainable economy;
- Conduct further research on: the importance of SD skills to graduate employers; community, student, and academic partnerships for SD; the different definitions and application of SD being used by students, academics, and policy makers.

¹ <http://www.qaa.ac.uk/en/Publications/Documents/Education-sustainable-development-Guidance-June-14.pdf>

Government and policy makers should:

- 1 Increase the resources and support for the higher education (HE) sector in responding to the clear student demand for SD to be promoted in and incorporated by their institutions;
- 2 Continue to promote the importance of SD across the HE sector and to the student population;
- 3 Support HEIs in the evaluation of SD performance, for example, through the inclusion of questions in the National Student Survey.

Employers and professional bodies should:

- 1 Work with HEIs and policy makers to identify the skills and knowledge needed for business opportunities in a sustainable and responsible economy;
- 2 Work with academics to incorporate professional sustainability skills into the curriculum and extra-curricular activities;
- 3 Work with students' unions on providing opportunities for work placements and internships that provide professional and subject relevant experience, whilst improving sustainability skills for students.

In summary, in response to the clear student demand, we continue and reinforce our recommendations that all HEIs adopt a holistic approach where students, senior management, academic staff, estates staff, employers and professional bodies work together on embedding SD throughout all curriculum, extra-curricular, operational, research, and enterprise activities.

3. Background

3.1 Context of the research

This research has taken place against a backdrop of economic difficulty and uncertainty across the UK. Associated with this, young people (16-24 year olds) have experienced high levels of unemployment, with numbers peaking at 1.04 million in November 2011². During this time, graduate employment was also affected with research finding that graduate full-time (FT) employment fell continuously between 2002 and 2010, from 57% of graduates in 2002 to 51% of graduates in 2010³.

More recently, unemployment levels have decreased with numbers amongst young people falling to 817,000 in July 2014⁴. Focusing specifically on graduates, research with the UK's 100 leading employers has shown that graduate recruitment amongst these organisations is increasing with 8.7% more entry-level vacancies offered in 2014 compared to 2013⁵. At the same time, whilst unemployment is reducing, other research has warned of continued and widespread under-employment in particular amongst young people. Of particular relevance here are the graduates working in non-graduate positions⁶.

Retaining a focus on development of employability relevant skills therefore remains important. It is also important to consider the kind of economy future graduates will be working in, or working to achieve. Recent pronouncements by the European Commission have again highlighted the benefits of a 'green economy' in creating 'quality jobs that contribute to the recovery from the economic crisis but at the same time secure the sustainable wellbeing of future generations' Previous waves of research have highlighted an expectation amongst the vast majority of recent graduates (96%)⁷ that they will be involved in sustainability in some way during their careers reinforcing the opportunity for provision of education for sustainable development (ESD) within Higher Education.

This research, first conducted in 2010⁸, was designed to improve the limited base of research on ESD beyond the setting of further education. It aimed to better understand student attitudes to and aspirations towards

² ONS, (accessed May 2014)

³ Local Government Association, (2012)

⁴ The Independent, (accessed June 2014)

⁵ High Fliers, (2014)

⁶ Local Government Association, (2012)

⁷ Sky (2011)

⁸ Available at: http://www.heacademy.ac.uk/assets/documents/sustainability/firstyearattitudes_finalreport.pdf and http://www.heacademy.ac.uk/assets/documents/esd/Student_attitudes_towards_and_skills_for_sustainable_development.pdf

developing skills in SD both within and beyond higher education as well as understand the policy context within which higher education institutes (HEIs) are operating. The longitudinal element to the research aims both to further understanding and build a clear picture of how attitudes may change throughout university careers as well as tracking any changes in attitudes and experiences amongst students entering their first year of study.

Auxiliary influences on the research have included the vote, in December 2010, to increase student tuition fees, which was predicted to become a shaping influence on student choice and demand. Therefore a clear and detailed understanding of student expectations is necessary to ensure graduates leave university with optimal skills from the perspective of students, employers and policy-makers. This research has now tracked the first intake of students paying increased tuition fees through their first and second-years in Higher Education.

November 2014 will see the culmination of the UN Decade of Education for Sustainable Development and as a result the current research can be seen as a 'stock take' of current practices and an identification of where attention might best be focused going forward. 2014 has already seen the publication of the QAA/HEA guidance on Education for Sustainable Development which aims to serve as a reference point or framework for curriculum development, delivery or review⁹.

3.2 History of the research: 2010 - 2012

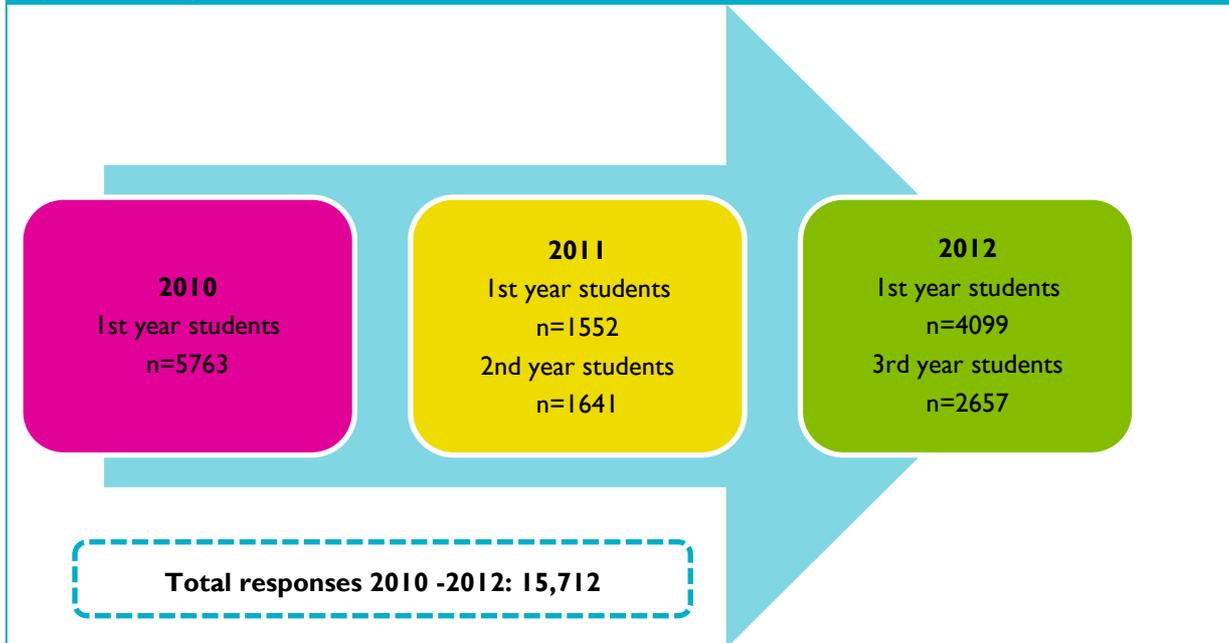
As outlined above, the current research is a development of research first conducted in 2010 by NUS on behalf of the HEA. This pioneering piece of research aimed to go some way to fill the gap in understanding student attitudes towards and skills for sustainable development in the UK. Prior to this fourth phase of the research, a total of 15,712 responses has been received across the three years.

This two-phase study incorporated a purposive desk review informing an online survey initially conducted in October 2010 which gained 5763 responses. Respondents were first-year students who had not taken more than a year away from formal education, and were taking their first degree¹⁰. The study was repeated in 2011 and also expanded to survey both first and second-year students meeting the same criteria as in 2010 (i.e. no more than a year away from formal education). A sample of 1552 first-year students and 1641 second-year students was achieved. Similarly, in 2012 the research continued with a survey of first and third year students, adding to the dataset on first-year students and completing tracking the 2010 intake of students throughout their university career. Samples of 4099 first-year students and 2657 third year students were achieved (see figure 1).

⁹ QAA and HEA, (2014)

¹⁰ HEA, (2011)

Figure 1: History of the research: 2010 - 2012



4. Aims and objectives

4.1 Project aims

The overarching aims of this research are to build on the findings and recommendations from the previous three waves of research carried out since 2010 in order to further develop the understanding of the ongoing attitudes of students in terms of:

- Current attitudes towards and understanding of SD amongst first and second-years
- First-year student attitudes towards and skills in SD over time
- Attitudes towards and skills in SD as students progress their university career
- The impact of changes in the HE landscape with the introduction of increased tuition fees for first-year students from 2012 onwards by tracking first-year responses from 2010 to 2013 and comparing the 2010 cohort with the cohort commencing their higher education careers in 2012.

With this in mind, the following objectives were defined for the research.

- 1 To construct a team of ESD policy and research experts to provide the HEA with a history and overview of SD as delivered in schools and FE from both policy, and skills and attitudes perspectives
- 2 To augment the existing literature review through post 2012 review of the effect of SD in terms of student attitudes and skills within HE
- 3 To engage with a representative sample of first-year HE students from a wide number of HEIs within the UK in order to understand:
 - Existing skills and knowledge
 - Attitudes to SD
 - Unmet needs in SD
- 4 To engage with a representative sample of second-year HE students from a wide number of HEIs within the UK in order to understand how time at university impacts on:
 - Existing skills and knowledge
 - Attitudes to SD
 - Unmet needs in SD
- 5 To produce a report including recommendations to the HE sector in order to enhance ESD in terms of meeting student needs through creation and development of sustainable development policy.

4.2 Research objectives

A two-phase research approach was designed to meet these objectives, following the approach adopted in the previous waves of research, namely a desk-review phase feeding in to a phase of UK-wide empirical research.

The objectives for each of these phases can be broken down as follows:

4.2.1 Desk review

- To focus on advances made in understanding and delivery of ESD (including the transition from schools to HE) since research was historically conducted in 2012.
- To understand evidence of existing student attitudes and skills in ESD and how ESD is currently being delivered in the UK

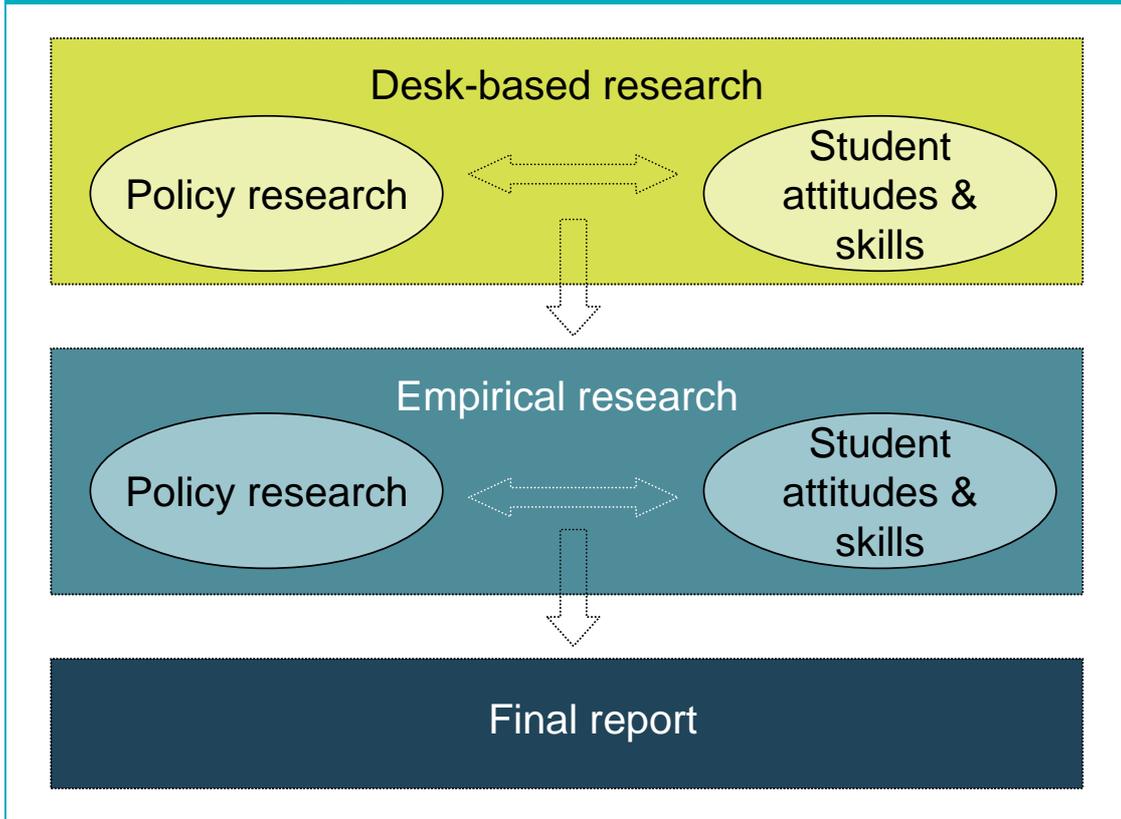
4.2.2 Empirical research

- To replicate the 2012 empirical research, with pertinent updates where necessary in order to determine first-year students' understanding of and attitudes towards SD issues with a view to understanding how this has changed since the previous wave.
- To replicate and update where necessary the 2012 empirical research in order to understand the impact and influence of universities, if any, on student attitudes towards and skills in SD
- To understand stated aspirations to study SD and gain insight into the degree to which first-year students in higher education feel that these aspirations are being met.
- To repeat this amongst second-year students
 - For both cohorts; to understand existing provision and interpretation of ESD and any stated unmet needs in ESD through empirical research.
 - For both cohorts; to use the empirical research to clarify what measures HEIs could take to meet stated unmet needs in terms of aspirations to study SD and improvements to existing provision of ESD.
 - To assess any significant differences within the 2012 cohort as they progress through university (first-year 2012 and second-year 2013)
 - To assess any significant differences between first-year attitudes between years (comparing 2010, 2011, 2012 and 2013 data)

4.3 Methodology

As outlined above, a two-phase methodology was conducted; a desk-based research period reviewed existing policy-based research and existing research into student attitudes and skills feeding into empirical research, which took the form of a national online survey. These two phases are demonstrated in Figure 2.

Figure 2: Research methodology



A project steering group consisting of representation from the HEA, NUS Services, and Change Agents UK met on two occasions to discuss:

- 1 Project set-up and methodologies;
- 2 Initial empirical research findings and reporting strategy.

4.3.1 Desk research

To provide a foundation for the empirical work and as part of the robust analyses, this project featured a short desk-based research phase covering:

- Existing publications and datasets on student attitudes, skills, unmet needs and perceived wants, which have been published since the 2012 wave of research
- Recent historical policy (post 2012) in ESD.

Core documents for inclusion in the desk research were identified through a process of consultation with the expert steering group along with purposive literature searches online (e.g. using Google search and Google Scholar). The consultation and search aimed only to discover sources published post-November 2012 to provide an update to the desk review conducted as part of the previous research.

4.3.2 Empirical research

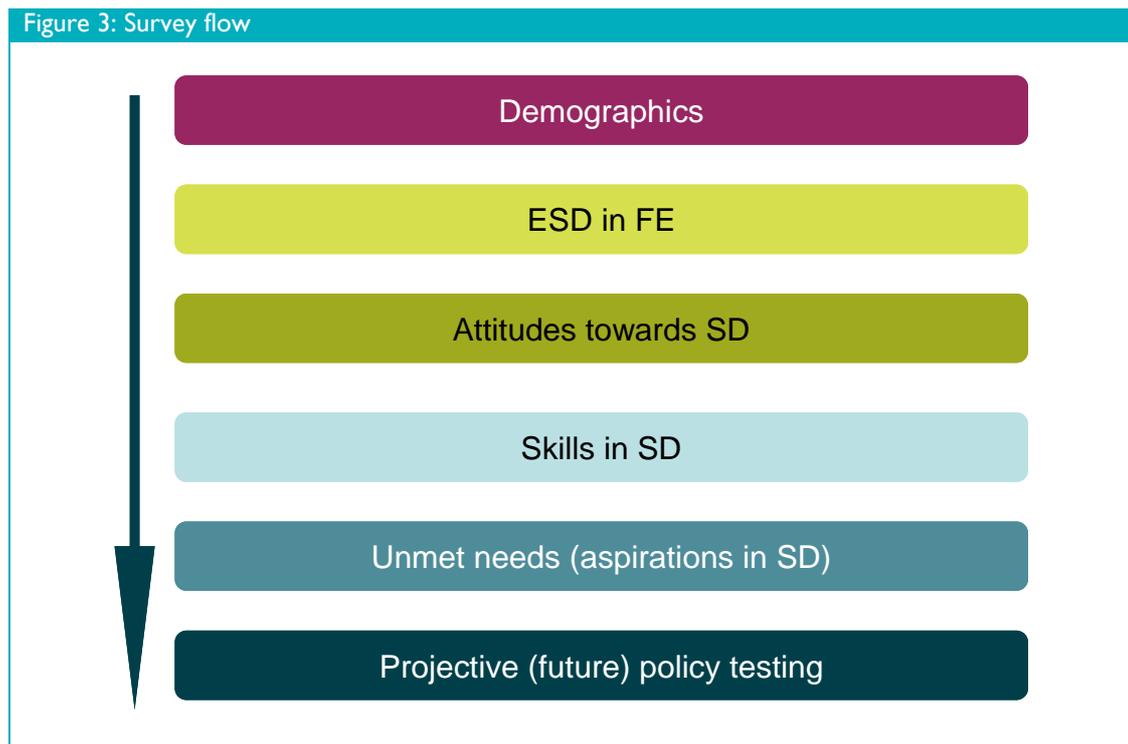
Informed by the findings of the desk review, along with consultation with the steering group, surveys were designed for first and second-year students around the following core themes:

- Student attitudes to sustainable development issues;
- Student definitions of sustainable development;
- Student aspirations towards ESD and expectations from HEIs;
- Student attitudes towards potential future policies to include SD within the curriculum;
- Student awareness of the future green economy and skills needed.

Empirical research was run via an online survey, applying quantitative methodologies to measure attitudes and skills. The skills under investigation in this research matched those developed for the previous research to be key indicators of the core skills in sustainable development: living within environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

Two surveys were designed, one for first-year students, one for second-years. The overall content of the surveys was a deliberate repeat of those used in the historical research in order to capture comparable longitudinal data.

Additions were made to capture further data on attitudes towards skills and employability, found in the 2012 research to be increasingly important as the 2010 cohort progressed through their university career and also with the increase in tuition fees for the 2012 intake. Figure 3 outlines the overall flow of the surveys.



The final survey materials can be found in the appendix.

Recruitment

The NUS Extra mailbase was used to provide access to 25,000 first-year students and 25,000 second-year students who were targeted with an HTML email. The HTML email directed respondents to an allocated web page for the project where the surveys could be accessed.

Within the second-year sample were respondents who completed the 2012 research as first-years and gave their permission to be recontacted for future research by NUS.

Support of a range of HEIs and students' unions was also secured to promote the surveys. This was typically through notifying interested members of staff to highlight to their first and third year students, and advertising through email or newsletter notifications.

The surveys were additionally incentivised with a £1000 prize fund, including a first prize of £500.

The surveys achieved representative samples of 3845 first-year students and 1747 second-year students. The results were weighted to align with the demographic characteristics of the UK student population as a whole.

5. Outputs and findings

5.1 Desk research – headline findings

The aim of this desk research is to provide an update to the research carried out previously for the HEA and to use existing work to inform empirical research. The core findings can be summarised as follows:

- One study¹¹ reported that participation in higher education can be seen as resulting in a significant positive association with commitment to environmental sustainability compared with other pathways to adulthood. This includes pathways involving other forms of full-time education. Understanding more about how this influence occurs, but also how it can be translated to the remaining pillars of sustainability (social and economic along with environmental) will be necessary to deepen and widen engagement with sustainable development.
- A potential cause of this commitment to environmental sustainability was highlighted in a review of action on ESD over the past decade. The argument here is that whilst climate change helped to drive forward the ESD agenda, it also served to obscure the broader focus of sustainability outlined above¹².
- Other research suggests that this has influenced students' comprehension of sustainability, with their focus being on the environmental perspective of sustainable development. This matches the findings of this research from 2010 to 2013. The author argues for an expansion of understanding of sustainable development in order to fully engage with the issue¹³. Other studies highlight that for some sustainability remains an unfamiliar concept¹⁴.
- Investigations of the importance placed on various aspects of sustainability by students in Australia have found the most important elements to be associated with social and interpersonal matters, for example being able to act responsibly and exercise compassion. Should these findings be transferable to the UK setting, this represents a conflict between the dominant focus of environmental sustainability and the relative importance of social sustainability as seen by students¹⁵.
- Reviewing the achievements that have taken place over the decade of education for sustainable development, authors note that whilst steps have begun to be taken in many institutions, for example through the establishment of new programmes, modules or more radical teaching methods, ESD has remained on the periphery of many degree programmes and in most cases appeals only to the already engaged¹⁶.
- The same authors note the potential for students to drive integration of ESD within curriculums and beyond but also note the potential for inconsistency given the relatively short lifetime of a student in higher education. On the whole, these fears have not been borne out across the four years of this research.
- Returning to the links with employability, research has found that work-based learning is valued by multiple actors – students, graduates, employers and HEIs – recognising its potential to contextualise learning but also to enrich personal development. There are however several barriers to work-experience including social mobility, perceived relevance, lack of flexibility and finance. A lack of opportunity amongst the SME sector has also been highlighted as a barrier. For the experience to be a true success, students must also be provided with adequate support and an opportunity to reflect on their experiences¹⁷.

¹¹ Cotton and Alcock (2013)

¹² Martin et al. (2013)

¹³ Walshea, (2013)

¹⁴ HEA, (2013)

¹⁵ Thomas et al. (2013)

¹⁶ Ryan and Tilbury, (2013)

¹⁷ HEA and the National Co-Ordinating Centre for Public Engagement (2012)

5.2 Empirical research – headline findings

The online survey was designed to build on the findings of the desk review and provide new insight and add further clarification to the 2012 research, both longitudinally at point of entry to university and throughout their university career, on what students' attitudes are to and skills in sustainable development in terms of:

- Existing skills – the influence of FE;
- Understanding, attitudes and behaviour for sustainable development during HE;
- Learning and using SD skills in HE; and
- Sustainability and employability.

The remainder of this chapter is arranged according to these themes. Key findings from each of these themes are presented at the start of each section.

Results from the three waves of research are presented, with each section considering an update from the 2012 research along with any notable trends and changes both across first-year responses and as respondents progress through their university careers. Figure 4 below presents a key in order to help interpret the graphical representations used within this section.

Figure 4: Guide to research findings

Tag	Survey data
 1st	Survey data from: <ol style="list-style-type: none"> 1st years 2010 (n=5763) 1st years 2011 (n=1552) 1st years 2012 (n=4099) 1st years 2013 (n=3845)
 2012 cohort	Survey data from: <ol style="list-style-type: none"> 1st years 2012 (n=4099) 2nd years 2013 (n=1747)
 2013	Survey data from: <ol style="list-style-type: none"> 1st years 2013 (n=3845) 2nd years 2013 (n=1747)

5.3 Existing skills – the influence of Further Education (FE)

Key findings

- Schools continue to be key vehicles of sustainable development through a range of schemes
- Respondents who attended schools (private or state) with integrated sixth form colleges show the highest recollection of sustainability initiatives
- Recognition amongst 2013 1st years remains consistent with 2011 and 2012 responses
- 2013 2nd year responses call into question the trend of reducing recollection of FE schemes identified amongst the 2010 cohort with greater levels of awareness than the 2012 1st years.
- This finding also creates questions around coverage of sustainability within FE as despite retrospective recall of coverage of SD skills remaining consistent on the whole, coverage of understanding people's relationship to nature is at a historical low within the research.

The surveys have all included an exploration of the influence of and exposure to initiatives and teaching during respondents' time in further education (FE). The historic research found schools to be the key vehicles of sustainable development schemes. This remains the case in 2013 with respondents having attended state-owned and private schools with integrated sixth form colleges showing the highest recollection of sustainability initiatives and schemes, for example 20.9% (n=161) of 2nd years in 2013 who attended a state-owned school within integrated sixth form recalled the EcoSchools scheme compared to 12.5% (n=33) of those who had attended a state-owned separate sixth form.



2012 cohort

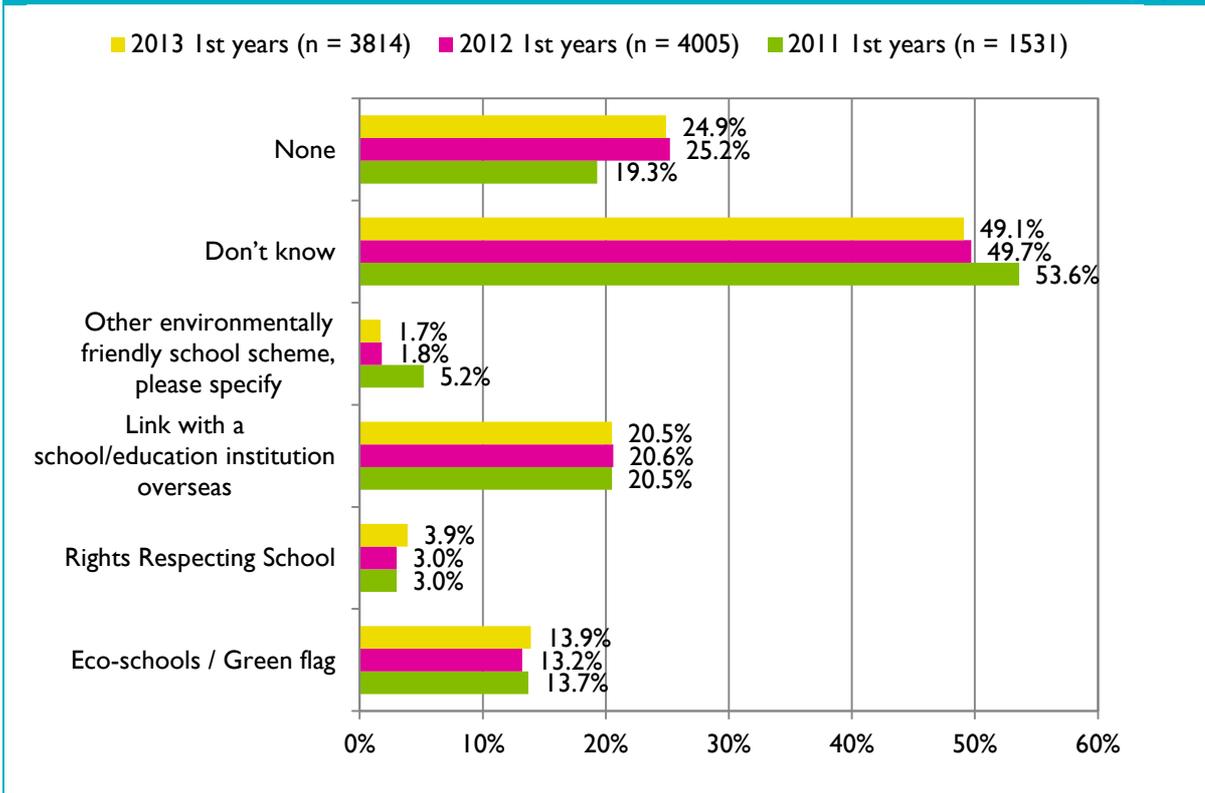
The previous report tracked the 2010 first-year intake through their university careers. The information from this 2010 cohort suggested that SD schemes in FE are not making a lasting impact on students, for example 35.6% (n=1451) 1st years in 2010 recalled their FE institution being part of the EcoSchools / Green Flag scheme, however only 11.6% (n=189) 2nd years in 2011 and 9.1% 3rd years in 2012 (n=229) recalled this participation. The 2012 cohort however does not follow the same trend. Second-year respondents in 2013 were significantly more likely to recognise participation in EcoSchools than first-year respondents to the 2012 research (15.7%, n=272 compared with 13.2%, n=530).



Recognition of SD schemes amongst first-year students remains remarkably consistent for example, in 2013, 13.9% (n=531) of first-year respondents recognised the EcoSchools programme. In 2011 and 2012 13.7% (n=210) and 13.2% (n=530) recalled participation in EcoSchools / Green Flag in their FE institution respectively.

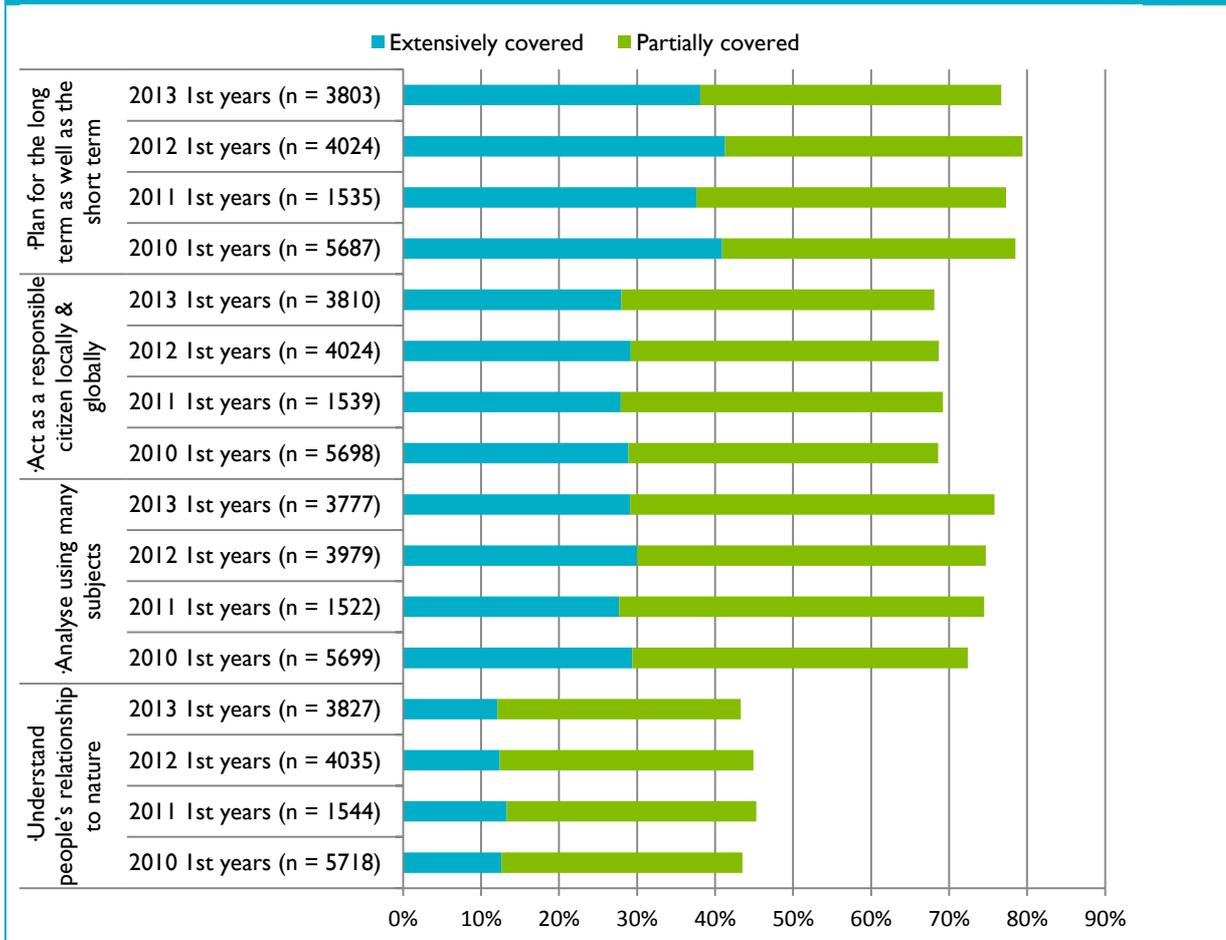
The responses generated in the first year of research in 2010 are however substantially different. The option of 'Don't know' was added in the last two years of the research however meaning that if respondents did not know the answer to a question they were able to skip to the following question. The 2010 data is therefore not presented in Figure 5 below.

Figure 5: What awards/initiatives did the last place you studied before your current university/college take part in, if any?



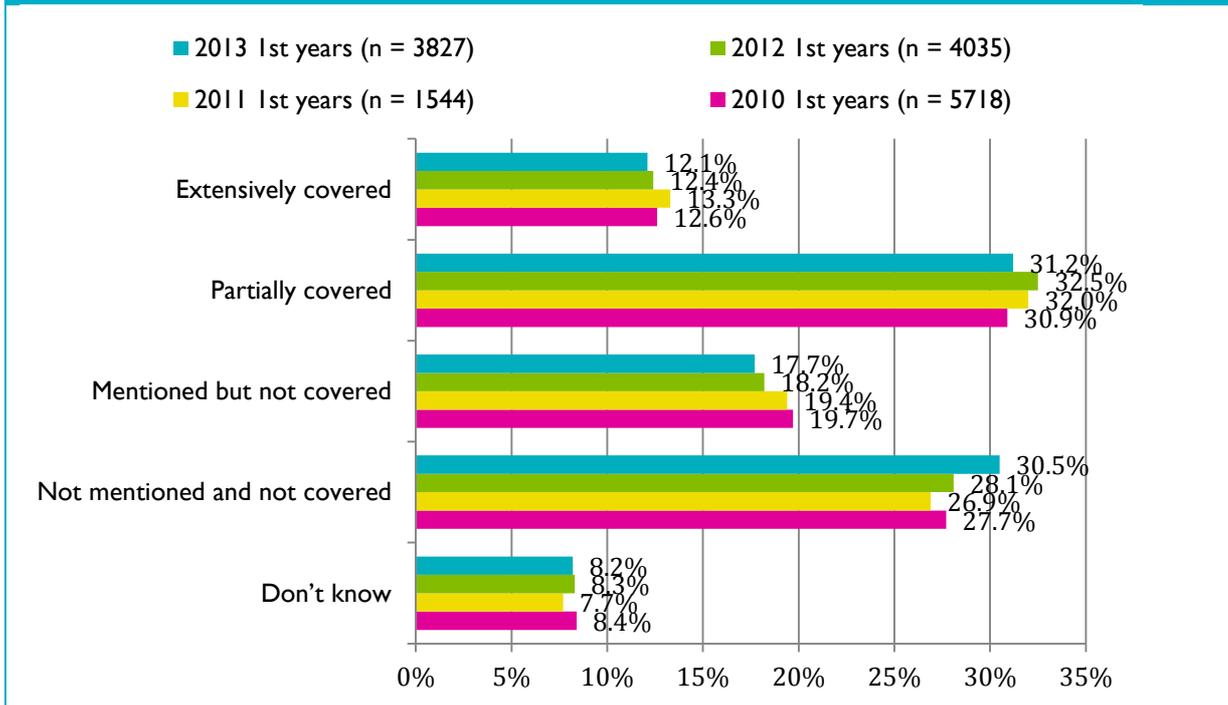
Respondents were also asked to retrospectively recall coverage of the core skills defined as skills for sustainable development in the 2010 research during their time in FE. As shown in Figure 6, 2013 1st years continue the existing trend of at least partial coverage with the exception being an ability to 'understand people's relationship to nature'.

Figure 6: Please tell us to what extent you believe these skills were covered in your curriculum at your last place of study.



Unpicking this further in figure 7, 1st year respondents in 2013 were significantly more likely compared with all other research years to report that 'understanding people's relationship to nature' was 'not mentioned at all' during their time in FE (30.5%, n=1172 in 2013 compared with 27.7%, n=1582 in 2010).

Figure 7: Please tell us to what extent you believe these skills were covered in your curriculum at your last place of study: Understand people's relationship with nature



This reflects the findings of the original 2010 research and suggests that the opportunity for core competencies to be formalised and deepened remains. This is particularly the case for the ability to 'understand people's relationship with nature'. Recent research carried out by the National Trust identified numerous benefits of connecting with nature at an early age, from mental and physical wellbeing to developing stronger communities¹⁸. The Trust identifies an increasing lack of engagement of young people in the UK with their natural environment termed 'Nature Deficit Disorder' and the results reported here suggest an alignment with this disengagement with nature. Looking beyond the individual and beyond local communities, research by the RSPB has also uncovered wider and longer term impacts, suggesting that a lack of connection and understanding of nature negatively influences motivation to protect the environment later in life¹⁹.

¹⁸ National Trust, (2012)
¹⁹ RSPB, (2007)

5.4 Understanding, attitudes and behaviour for sustainable development in Higher Education

Key findings

- Respondents' understanding of sustainable development continues to be aligned to the Brundtland definition²⁰, with the environmental dimension remaining most prominent.
- Respondents consider themselves to be generally positive in terms of environmentally-friendly behaviour, with approximately two fifths describing themselves as doing 'quite a few things', and the move into more independent living in the second-year appears to be associated with an increase in pro-environmental behaviour.
- Despite anticipated participation in environmentally friendly schemes or initiatives remaining low, a significant increase has occurred in the number of respondents participating in environmental clubs and societies. This contradiction in findings requires further investigation.

5.4.1 Current understanding of SD

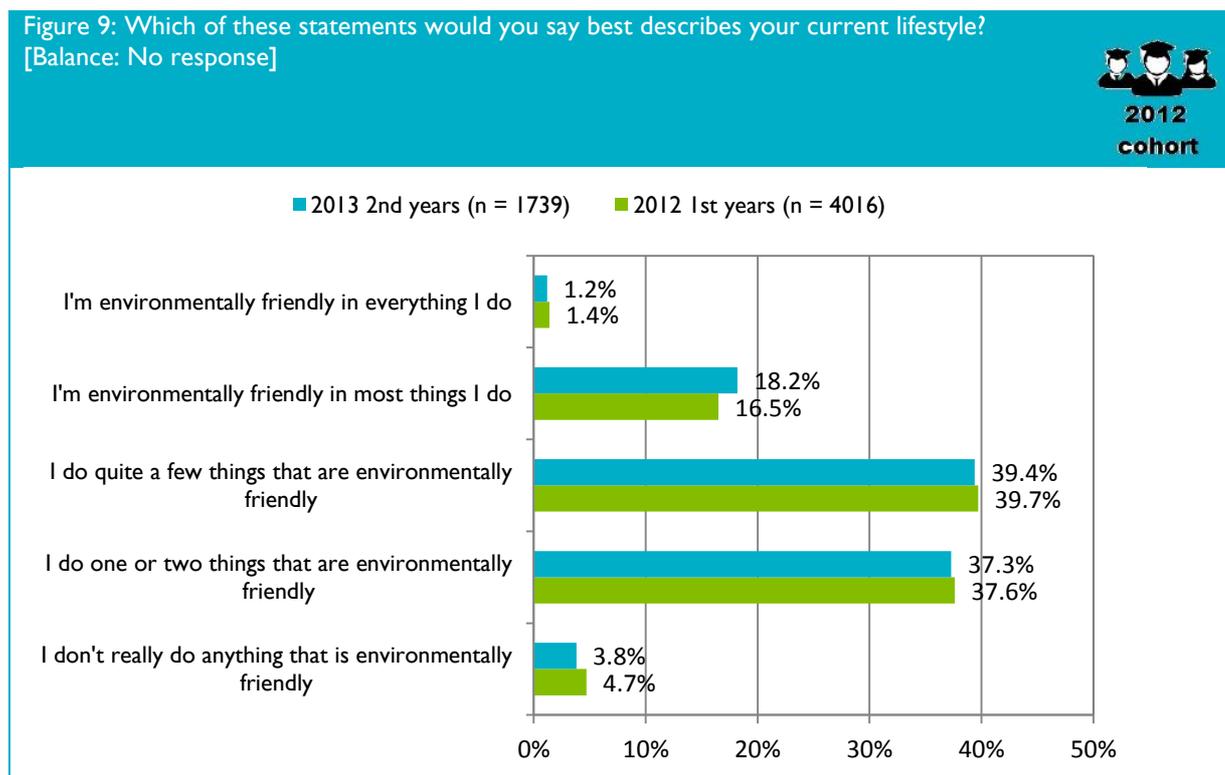


As in previous years of the research, respondents were asked to define sustainable development in their own words, without prompting. Respondents were not provided with a definition of sustainability until after this question (at the end of the survey) in order to avoid influencing respondents and ensure responses were based on their own understanding of the environmental and social skills associated with sustainable development.

²⁰ The Brundtland definition of sustainable development is described as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

5.4.2 SD Behaviour

Respondents in 2013 continue to believe themselves to be generally positive in terms of demonstrating environmentally friendly behaviours, with 38.4% (n=1460) of 1st year respondents and 39.4% (n=685) of 2nd year respondents stating that they 'do quite a few things that are environmentally friendly'.



The 2012 cohort shows no significant change in reported pro-environmental behaviour as they progress through university (figure 9), although there is a small but not significant increase in the number of respondents who consider themselves environmentally-friendly in most things they do as 2nd years in 2013 compared to the responses of the cohort while in their 1st year in 2012. This mirrors the findings of the 2010 cohort in the previous reports associated with this research.

Again it is important to bear in mind that these are self-reported behaviours and may not reflect true action, however further investigating changes in environmental behaviour in the move from home to university, and from university accommodation to private residences may reveal any true differences in environmental behaviour²¹

Across all waves of the research, the proportion of respondents stating they are environmentally friendly in everything or most things they do is low indicating opportunities remain to facilitate environmental action whilst at university. This question is asked on a national basis by Defra's tracker survey, and results from 2009 show the student population to be slightly behind the national average with 25% of people across the UK self-reporting that they are environmentally friendly in most things they do²². It is however worth remembering that Defra last collected this data in 2009 and more recent studies have shown that globally, levels of concern about environmental issues are falling²³.



The intention to carry out behaviours whilst at university continues to be strong amongst the 2012 cohort where the behaviour has become a 'social norm' (for example 'recycling') and can be conducted individually, see figure 10 below. The 2013 results on the whole mirror the previous cohort with an increase in intention to save energy as 1st years move into their second-year and most frequently into the private rented sector (80.9%, n=3240 2012 1st years report an intention to save energy compared to 89.7%, n=1541 2013 2nd years).

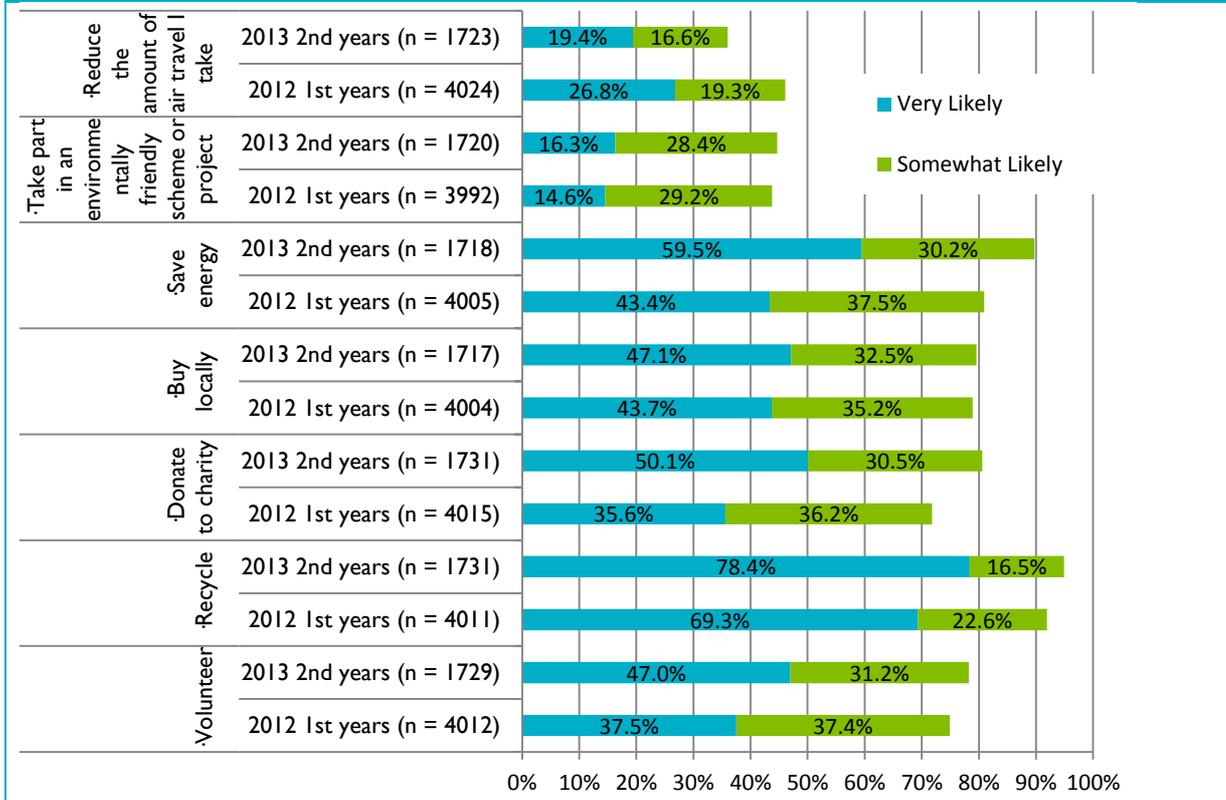
²¹ Defra, (2011)

²² Defra, (2009)

²³ <http://www.independent.co.uk/environment/climate-change/green-fatigue-sets-in-the-world-cools-on-global-warming-8513826.html>

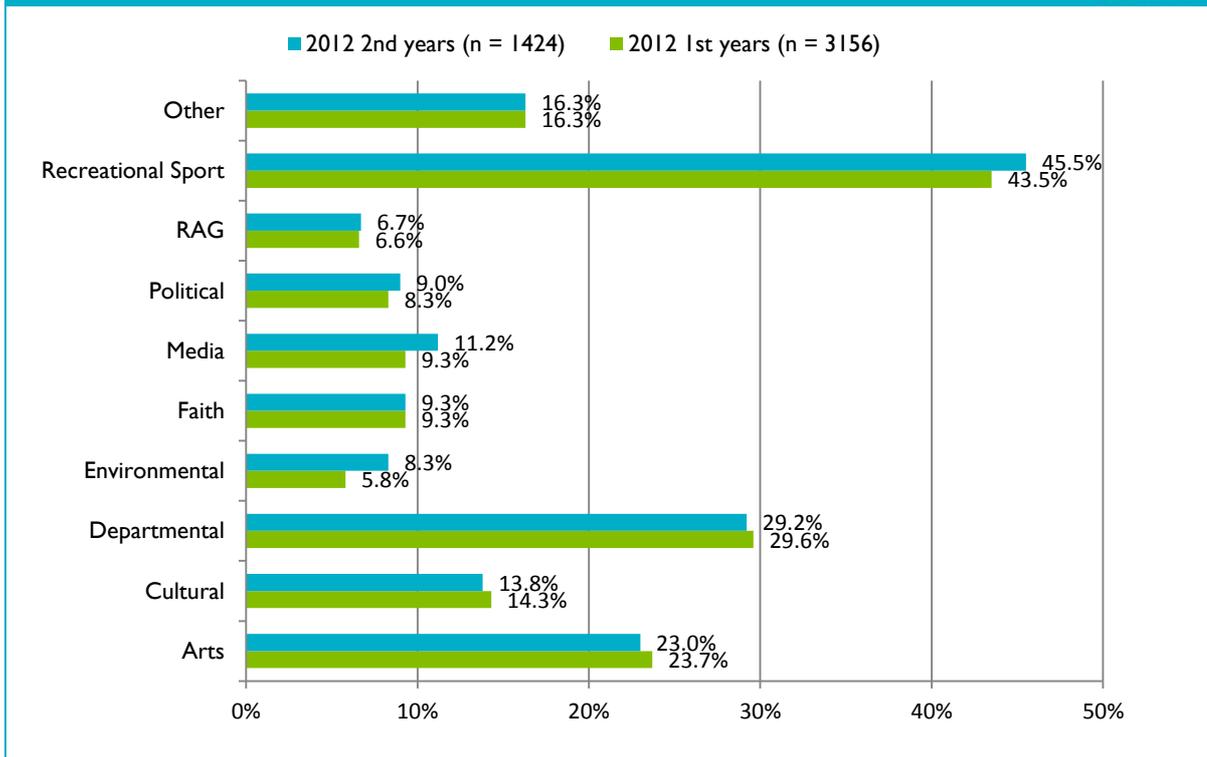
Unlike the previous cohort under investigation (1st years in 2010), there is no significant decrease in intention to participate in environmentally-friendly projects throughout their time in higher education, with 2nd years in 2013 reporting a small increase (non-significant) in intention to participate compared to 2012 1st years (44.7%, n=769 2013 2nd years compared to 43.8% 2012 1st years, n=1748).

Figure 10: How likely, if at all, are you to take part in the following actions during your time at university?



This reflects the findings elsewhere in the research in terms of participation in the informal curriculum related to sustainable development.

Figure 11: Which, if any, of the following groups, clubs or societies are you part of in your current university / college?



Despite the low intention to participate in an environmentally-friendly scheme or project during their time in university, respondents in the 2012 cohort have revealed a significant increase in participation in environmental clubs and societies as they progress through their university careers (5.8%, n=182 of 2012 1st years report participating, compared to 8.3%, n=119 2013 2nd years) (figure 11). Further investigation into what this participation looks like, including motivation and impacts would assist in driving further engagement and participation.

5.5 Learning and using SD skills in Higher Education

Key findings

- Approximately a third of respondents in 2013 considered the environmental and ethical performance of their university when making decisions over where to attend however traditional attractants remain strongest – reputation, teaching and entry requirements.
- The intakes of first-years following the increase in tuition fees (2012 and 2013) show an increasing reliance on league table performance to assist them in deciding where to study.
- The 2012 cohort add to the existing evidence of respondents increasing the extent to which SD skills are carried out as they progress through university.
- Whilst overall perception of importance of SD skills for graduates in their field remains high in 2013, there are significant differences between 1st years and 2nd years in 2013 with 2nd years less likely to rank skills as important.
- Overall relevance for SD skills to their courses range from 60% to 90% agreement and shows a general (significant and non-significant) increase with progression through higher education.
- 2013 1st years join their 2012 counterparts in being more likely to see some SD skills as relevant to their university education than 2010 and 2011 intakes.
- There is continuing and increasing demand for SD skills to be taught with

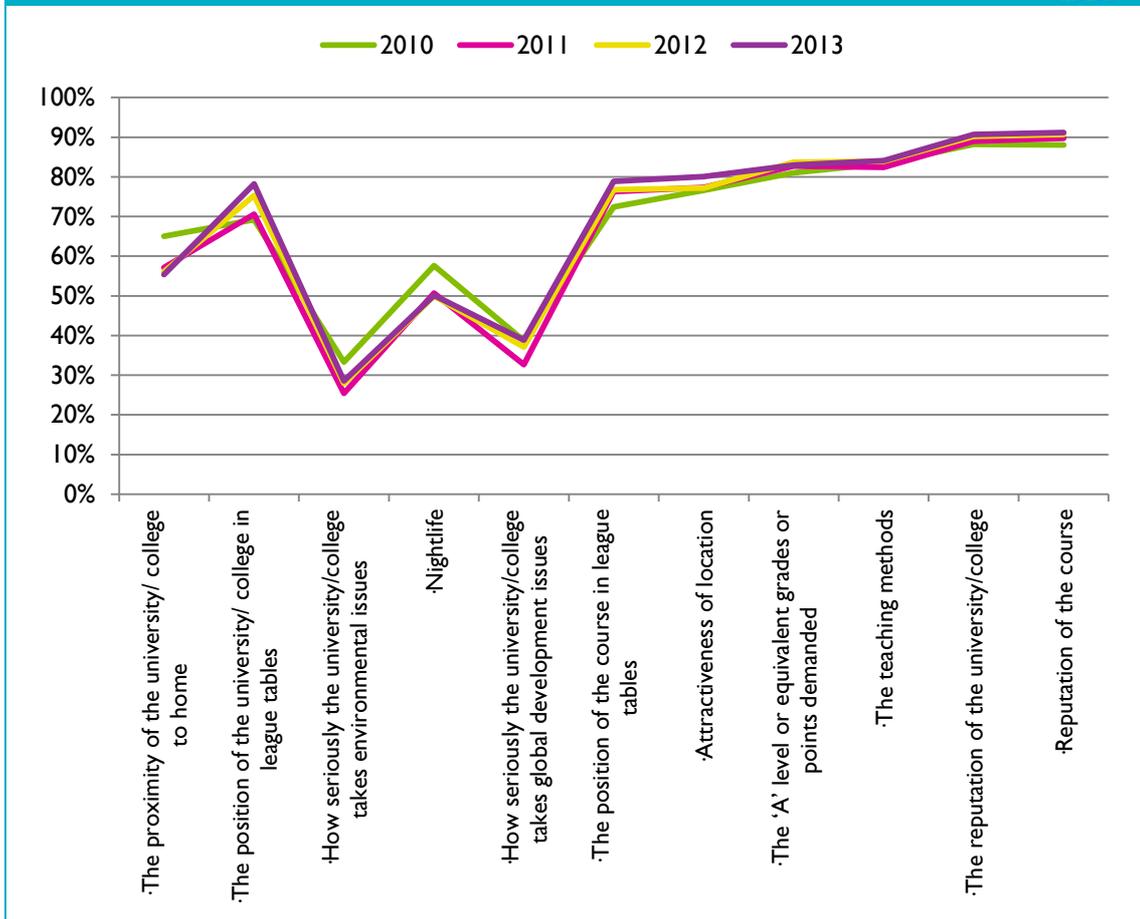
approximately 70% of 1st years in 2013 agreeing that universities should be obliged to develop students' social and environmental skills, increasing significantly on 2012 results. International students are significantly more likely to strongly agree that this should occur.

- Translating these findings to their current places of study, 2013 respondents show a fluctuation in agreement that a range of actors within their institution practices and promotes good social and environmental skills. From 2010 to 2012 the results showed an increase in perceptions of positive performance in this area by their university or college, however in 2013 both 1st and 2nd years reported a significant decrease.
- Perceptions of performance of clubs and societies are lower by comparison with respondents' universities and courses suggesting a need to improve extra-curricular, informal learning opportunities.
- Approximately 70% of respondents agree that their students' union practices and promotes good social environmental skills. Further research would be needed to assess how students are interpreting this performance, for example whether this comes through exemplified behaviour or the influence of students' unions more traditional campaigning role.
- Desire to learn more about sustainable development remains high with three fifths of respondents in 2013 highlighting a gap in their learning experiences. Amongst international students the figure is as high as three quarters reporting that they would like to learn more.
- Respondents in 2013 reflect a desire in 2012 for an obligation to be set on course tutors to include SD within their teaching with approximately 50% of respondents agreeing with this option.
- Preference for SD content to be built into existing materials continues throughout university careers and across 1st year intakes. The 2012 cohort show no significant differences in terms of preferences between year groups, therefore further research would be required to continue to track this cohort into their final year to confirm the previous findings of a decrease in preference for including additional material.
- 2013 respondents shows a strong preference for learning through extra-curricular activities, in particular those run within their students' union.

5.5.1 Influence over university choice

First-year respondents again cite university and course reputation, league tables and entry requirements as more powerful attractants to a university than sustainable development metrics; university reputation and delivery act as a match for respondent aspirations. These are the main attractants across all four years of the research.

Figure 12: How important were the following when choosing which university or college to apply to? (Responses ranked very important and somewhat important)



The emphasis placed on league table standings in previous years increases again amongst 2013 1st year respondents with 34% (n=1299) reporting that this factor was very important when considering their choice of university. Coupled with the responses from 2012 1st years, the results show significant differences between pre and post increase in tuition fees with post-increase 1st years informed more heavily by league tables. The same finding occurs when considering the position of their individual course within league tables, for example 31.6% (n=483) of 2011 1st years rated this as very important compared with 36.1% (n=1380) of 2013 1st years (see figure 12). Further investigation of these results is necessary to more fully understand the influence of increased tuition fees and the marketization of higher education on these findings.

When taking into consideration wider responses to the question we can see that between a quarter and a third of 1st year respondents in 2013, as in previous years, make some consideration of environmental and ethical performance (28.6%, n=1092 considered how seriously the university / college takes environmental issues and 38.9%, n=1480 considered how seriously the university / college takes global development issues in 2013). This continues to demonstrate the need to ensure that a university or college communicates its wider values to prospective students along with the more traditional attractants mentioned previously. The importance placed on performance within league tables could have important implications for schemes such as the People and Planet Green League.

5.5.2 Skills during HE

Over the four years of research, this study has also aimed to assess how skills for sustainable development are both utilised and developed throughout respondents' journeys through higher education.



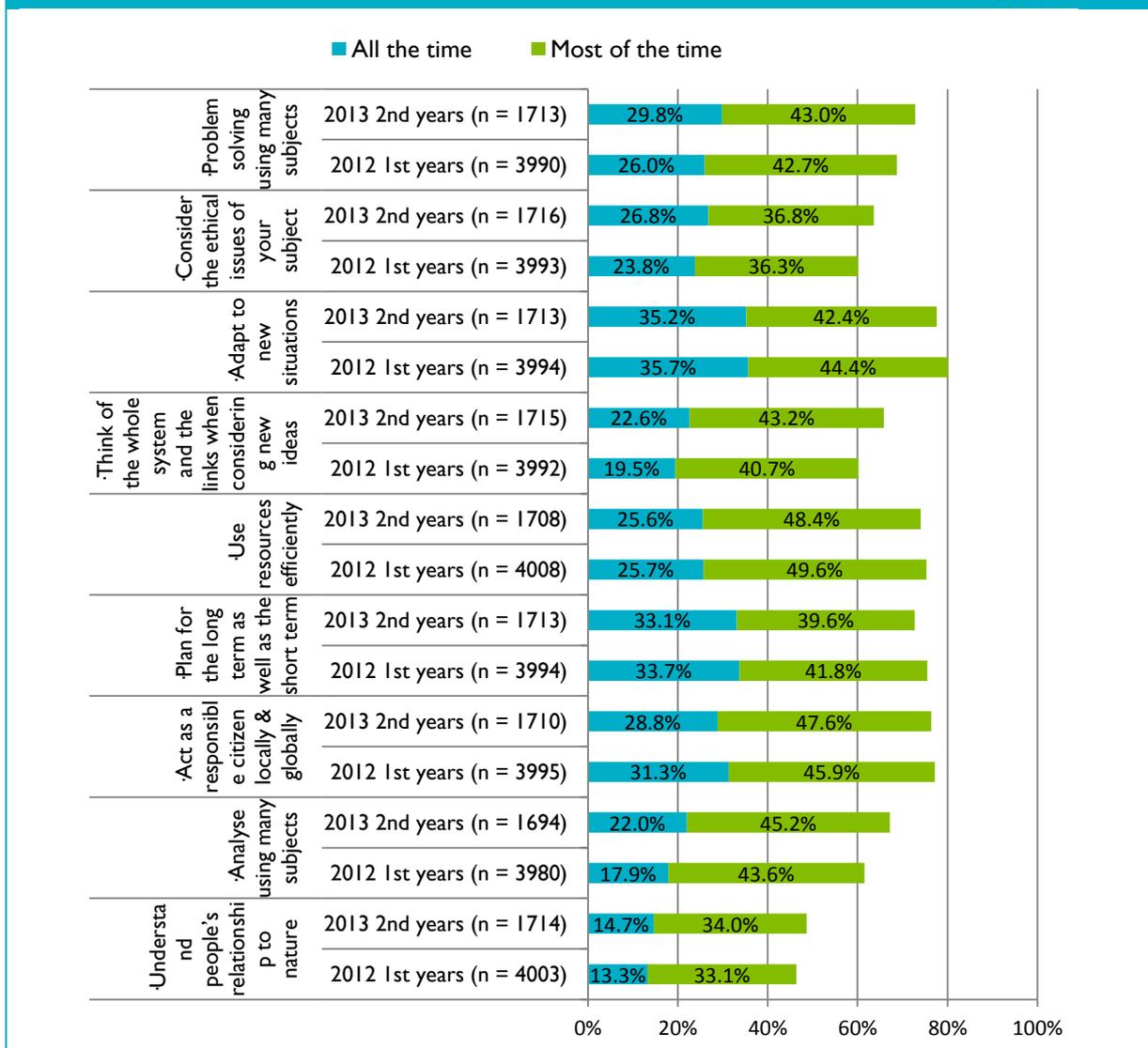
2012 cohort

Relatively low numbers of respondents cite conducting sustainability skills 'all the time' and difference between year groups for each skill is relatively minor (figure 13). Mirroring the findings of the previous research, there is some evidence of an increase in the practicing of skills as respondents progress through their university careers. For example, 2nd years in 2013 report a significant increase in 'analysing using many subjects' 'all of the time' compared to 2012 1st years (17.9%, n=713 1st years 2012 compared with 22%, n=373 2013 2nd years). One skill that appears to defy the trend is the ability to 'act as a responsible citizen locally and globally'. The practicing of this skill to some extent showed a (non-significant) decrease between 2012 1st year and 2013 2nd years who reported carrying this out either most or all of the time (77.2%, n=3082 compared to 76.4%, n=1307).

Figure 13: To what extent, if at all, do you think that you personally carry out the following skills?



2012 cohort



5.5.3 Importance of SD skills for graduates



2013

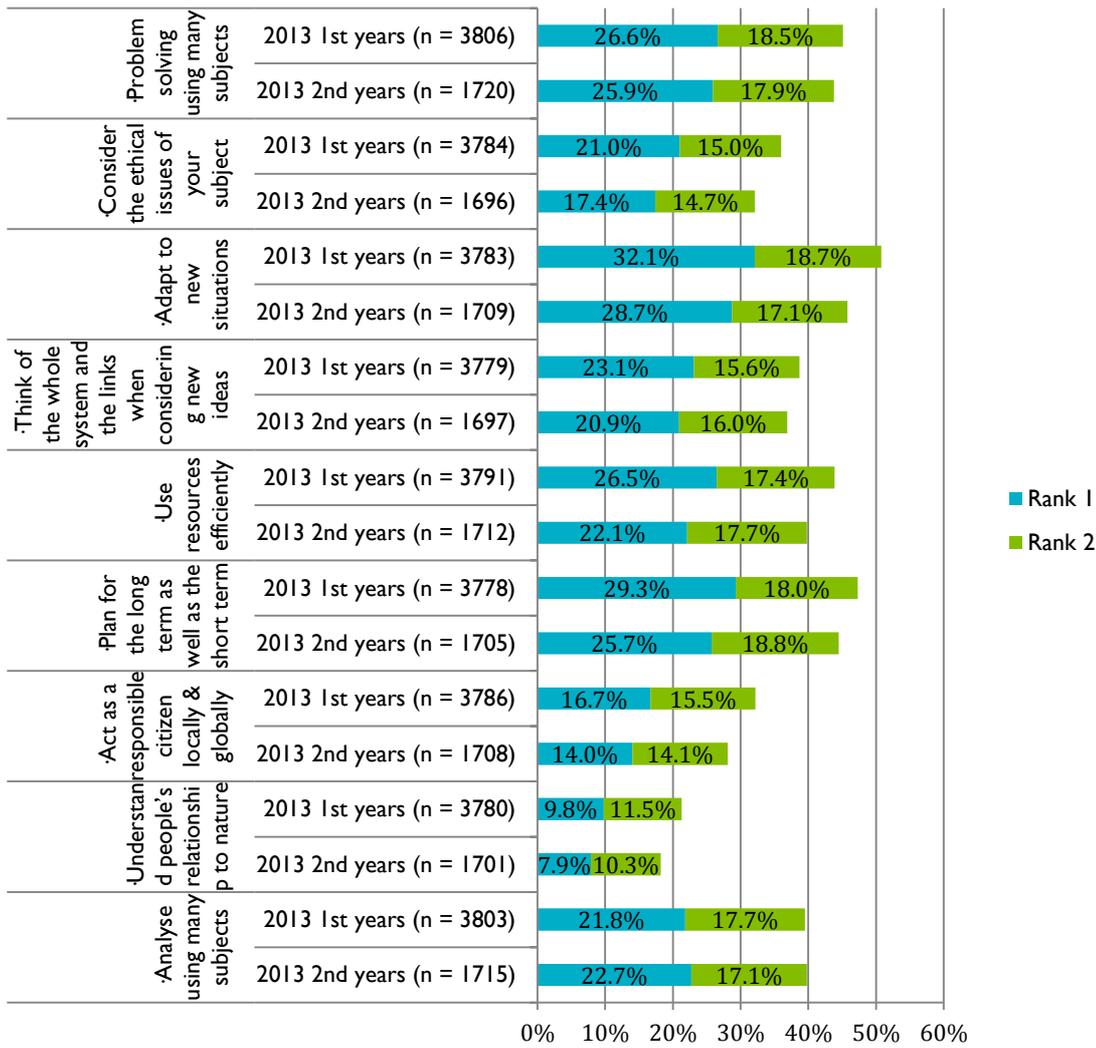
In terms of ranking SD skills by the importance of inclusion in their courses, 2013 respondents show considerable variation in their perceptions. Developments in the survey program used to deliver the research mean that the data for this question was collected differently to the previous waves of research and are therefore presented here independently.

Figure 14 shows that in general, 2013 1st years are more like to see these skills as important for a graduate in their field than 2013 2nd years. For example, significantly more 2013 1st years rank the ability to 'act as a responsible citizen locally and globally' as 1 or 2 in terms of importance compared to 2013 2nd years (32.2%, n=1219 compared to 28.1%, n=480). Similarly, 50.8% 2013 1st years (n=1923) ranked the ability to adapt to new situations as 1 or 2 in terms of importance compared to 45.8% (n=783) 2013 2nd years.

By way of reference, the previous waves of research highlighted that both overtly SD skills (according to respondents definitions of SD) and more generic skills saw a significant decrease from 2010 1st year responses to 2011 1st years, and again from 2011 to 2012 1st years. For example, 26.6% of 1st years in 2010 ranked 'understanding people's relationship to nature' as 1 or 2 in terms of importance (n=1510), falling to 23.5% (n=334) in 2011 and finally to 20.6% (n=822) in 2012. The ability to 'act as a responsible citizen globally and locally' has also seen decreases amongst the first-year intakes with just 30.5% (n=1223) ranking this skill as very important compared to 33% (n=483) in 2011 and 43.4% (n=2446) in 2010.

As respondents in the 2010 cohort progressed throughout their university careers there was also a significant decrease in the ranking of skills as 'most important', for example there is a significant decrease between 1st year responses in 2010 and 2nd year responses in 2011. The decrease was also repeated between the latter and 3rd year responses in 2012 for the ability to act as a responsible citizen globally and locally. For example only 27.9% of 3rd year respondents in 2012 compared to 31.1% of 2nd years in 2011 (n=474) and 43.4% of 1st years in 2010 (n=2446).

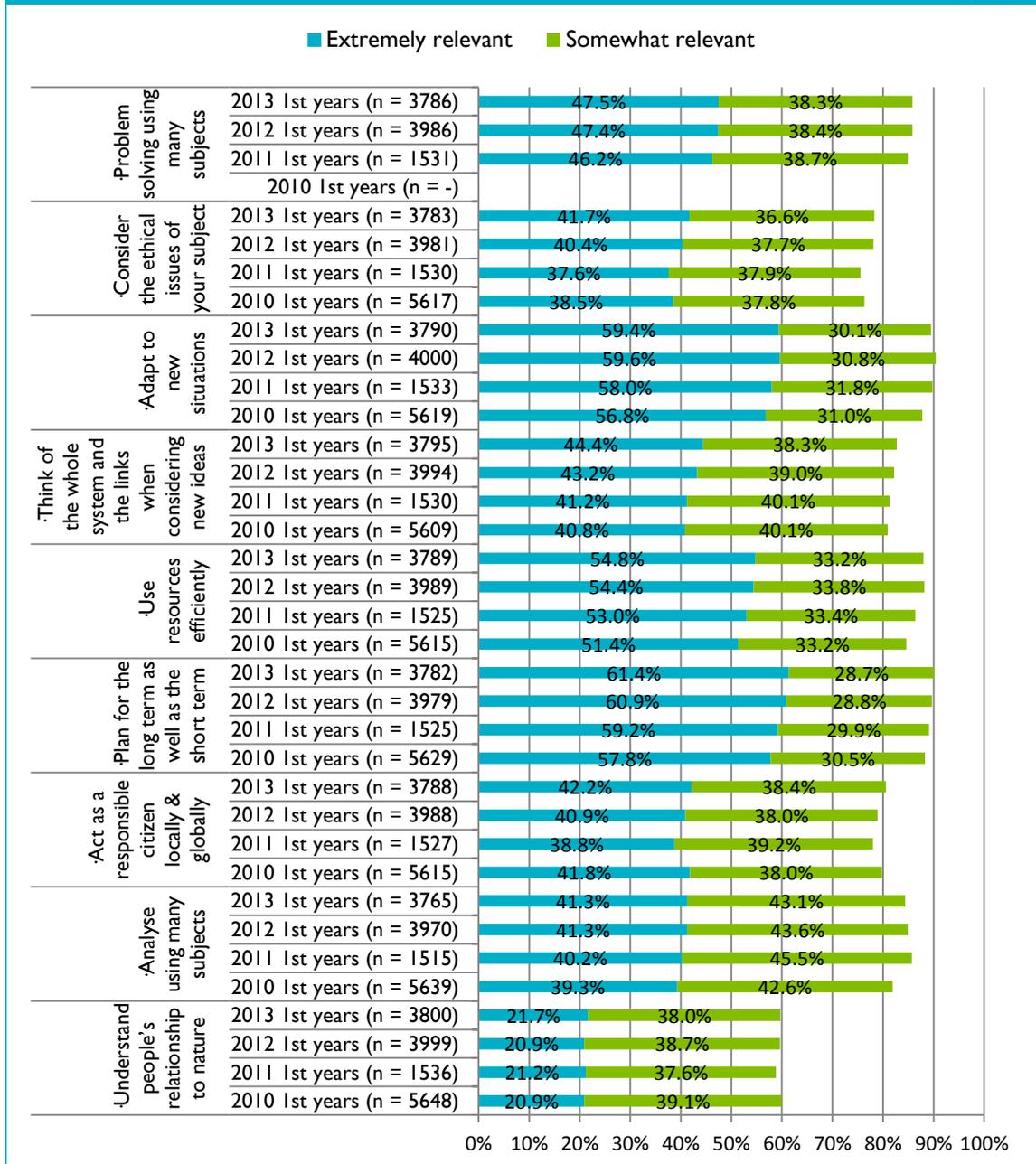
Figure 14: Please rank the following skills in terms of their importance in being included in your course for a graduate in your field, where 1 is the most important and 8 is the least important [n.b. Due to a change in the survey program, these results are not comparable with previous years]



5.5.4 Relevancy to course

Respondents in the latest research continue to place high value on many aspects of sustainable development in terms of the associated skills increasing their ability to perform well in their courses during HE (see Figure 15 below, which demonstrates those who selected extremely relevant or somewhat relevant).

Figure 15: Thinking only of your own personal view, how relevant is it to you that the following skills are developed through your university education?



Consistent with the 2010 cohort, overall relevance ranges from 60% to 90% with only 'understanding people's relationship to nature' being consistently in the lower ranges for the 2012 cohort. Unlike the 2010 cohort however there are no significant increases amongst those respondents reporting the skills to be either somewhat or extremely relevant between first and second-year with perceptions remaining constant throughout their university careers to date.



The results from 2013 1st years (figure 15) show that as well as increasing in relevancy throughout university / college careers, the proportion of 1st year respondents valuing SD skills as important for their university education has continued to be at a greater level for 1st years post-increase in tuition fees than prior to this. For example, the number of 1st year respondents stating that to 'use

resources efficiently' is an 'extremely important' skill was significantly larger for 2012 1st years (54.4%, n=2169) and 2013 1st years (54.8%, n=2084) than for 2010 1st years (51.4%, n=2884). Similarly, the number of 1st year respondents rating the ability to 'plan for the long term as well as the short term' as 'extremely important' was significantly greater for 2013 1st years (61.4%, n=2331) than for 2010 1st years (57.8%, n=3254).

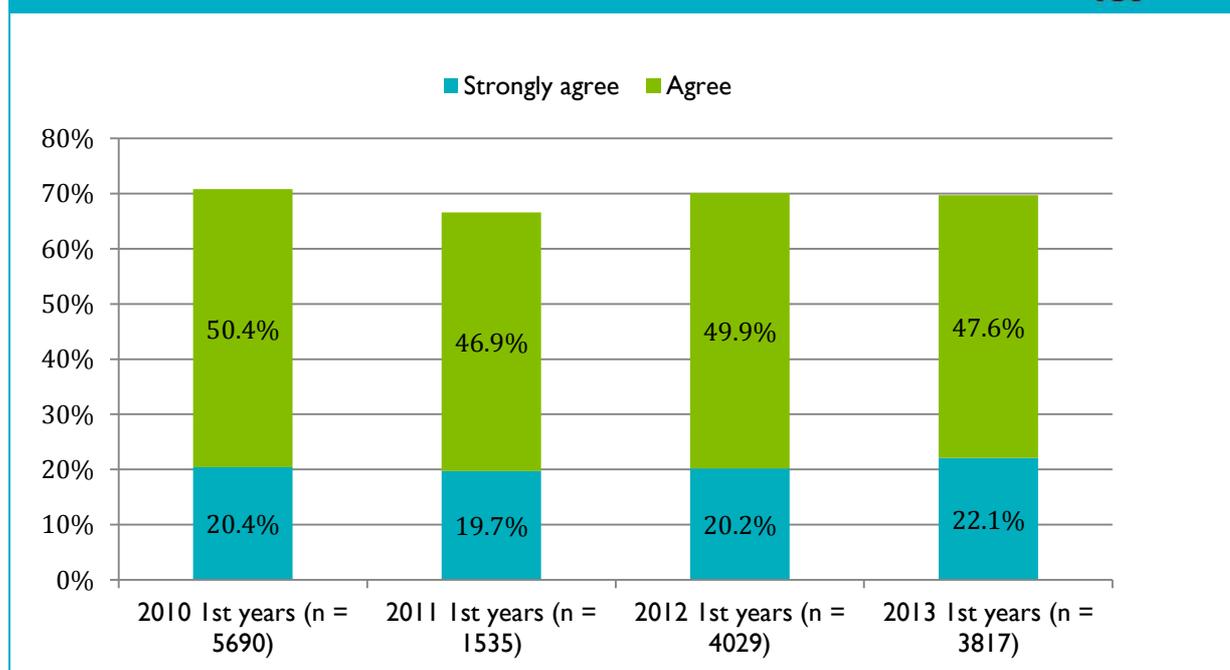
These findings continue to indicate an opportunity to formalise this demand towards a receptive student demographic.

5.5.5 Preferences for learning in SD



In 2013, university choice continues to be influenced more greatly by the traditional indicators of quality, such as reputation and teaching, however there is also a continued expectation for universities to support the development of the wider suite of skills associated with sustainability literacy and thereby improving employability (supported by the increase in relevancy shown in figure 16). Approximately 70% of 1st year respondents again agree (strongly agree or agree) that universities should be obliged to include SD skills development as part of their courses. There is a significant difference in the responses of 2012 and 2013 1st years, with 2013's 1st years significantly more likely to strongly agree that universities should be obliged to develop their students' social and environmental skills (22.1%, n=844 compared to 20.2%, n=813).

Figure 16: To what extent, if at all, do you agree that universities should be obliged to develop students' social and environmental skills as part of their courses?



Continuing the trend identified across all three previous years of research, respondents most frequently allocated ascription of responsibility for developing skills and preparing for the graduate job market to their university / college or to themselves.

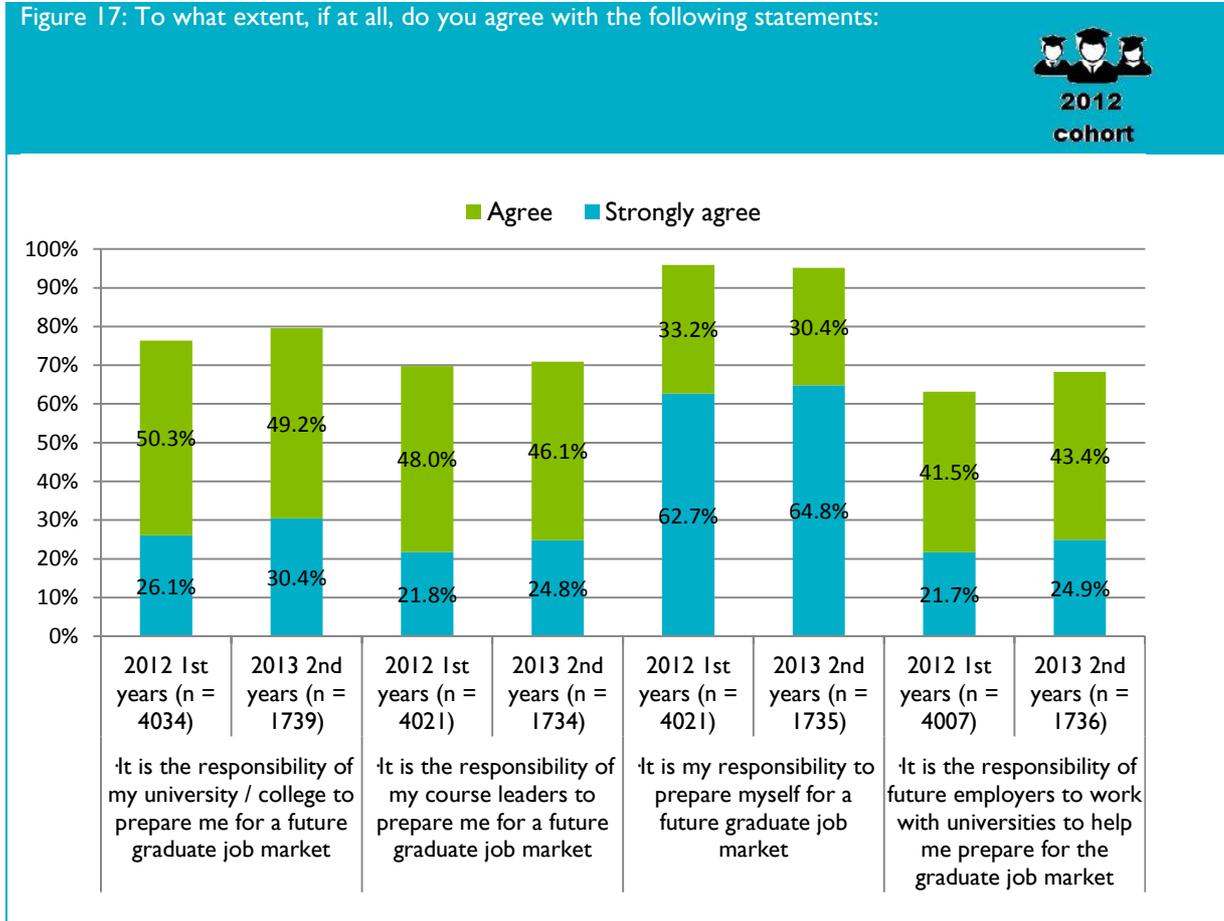


Longitudinally, the 2012 cohort shows a continued ascription of personal responsibility towards preparation for the graduate job market, for example 95.9%, n=3856 2012 1st years and 95.2%, n=1654 2013 2nd years agree to some extent that they are personally responsible (figure 17). Looking in more detail however, figure 16 below shows small but significant increases between 1st and 2nd year respondents who strongly agree with ascription of responsibility across all actors (e.g. 26.1%, n=1054 2012 1st years strongly agree that their university or college is responsible, compared with 30.4%, n=529 2013 2nd years).



The responses from 1st years over the course of the four waves of research remain generally unchanged in terms of overall agreement. As with the 2012 cohort described above, there has also been a significant increase in the proportion of respondents 'strongly agreeing' that it is the responsibility of their university / college, their course leaders and their future employers to help prepare them for the future graduate jobs market (e.g. 2013 1st years 31.0%, n=1190 strongly agreed, compared to 26.1% 2012 1st years (n=1054), 25.3% (n=390) 2011 1st years, 25% (n=1428) 2010 1st years).

Figure 17: To what extent, if at all, do you agree with the following statements:



Part of this preparation includes the positive exemplification and promotion of positive environmental and social skills across institutions. A large proportion of respondents in 2013 share the belief that the university they attend practices and promotes good social and environmental skills (84%, n=3206 2013 1st years and 81%, n=1406 2013 2nd years agree or strongly agree).



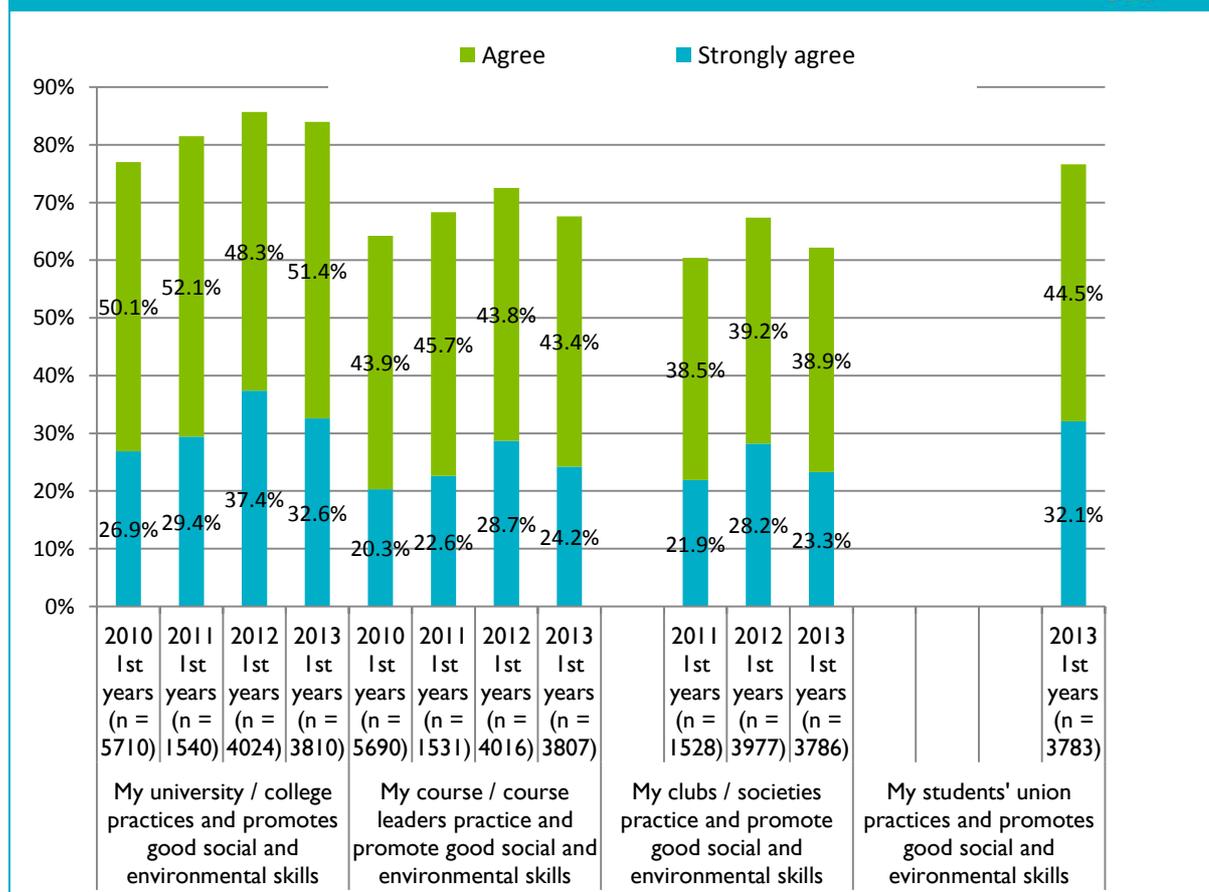
Tracking respondents throughout their university careers, our previous research found there to be no significant change in perception of the performance of their university on practicing and promoting good social and environmental skills (77%, n=4397 2010 1st years, 78.4%, n=1279 2011 2nd years and 79.2%, n=2020 2012 3rd years). However, the latest cohort, beginning their academic careers in 2012, have shown a significant decrease in positive perceptions of performance by their institution. 81% (n=1406) 2013 2nd years agree to some extent that their university practices and promotes good social and environmental skills compared with 85.7% (n=3447) 2012 1st years.



The 1st year respondents in 2013 also reflect this fluctuation, as shown in figure 18. 1st year perceptions of their university or colleges' action improved significantly over the three previous years of research with 85.7% (n=3447) agreeing that their university/college practices and promotes good social and environmental skills in 2012 compared to 77% (n=4397) in 2010. However, this significantly decreases in 2013 with 84% agreeing (n=3206). The same fluctuations can also be seen amongst 1st year perceptions of the performance of course leaders and the clubs and societies at their university / college - becoming increasingly positive between 2010 and 2012 intakes and then decreasing in 2013.

Perceptions of performance of clubs and societies remains consistently lower across all waves of the research (the option was included from the 2011 research onwards) however in contrast, the performance of students' unions in terms of their practice and promotion of positive environmental and social skills is rated positively by three quarters of 2013 1st year respondents (76.6%, n=2908). This discrepancy may be explained by the role of students' unions in campaigning on social and environmental issues, or through exemplification of positive behaviour for example through participation in schemes such as Green Impact Students' Unions. Further research would be needed to investigate these perceptions. The previous suggestion that the informal curriculum is currently under-used remains an important observation.

Figure 18: To what extent, if at all, do you agree with the following statements: (Statement three not asked in 2010; statement four only asked in 2013)



The previous waves of research have identified ongoing scope for incorporation of sustainability within university practices and course leadership despite these positive responses. The 2013 findings reiterate this ongoing opportunity with three fifths of respondents expressing a desire to learn more about sustainable development (61% n=2293 2013 1st years, and 61.5%, n=1036 2013 2nd years).



There continues to be no significant change in desire to learn more about sustainable development between year groups which suggests that the capacity for increased coverage remains despite entering their final year at university (figure 19). Student understanding of sustainability is key to comprehending where coverage can be improved.

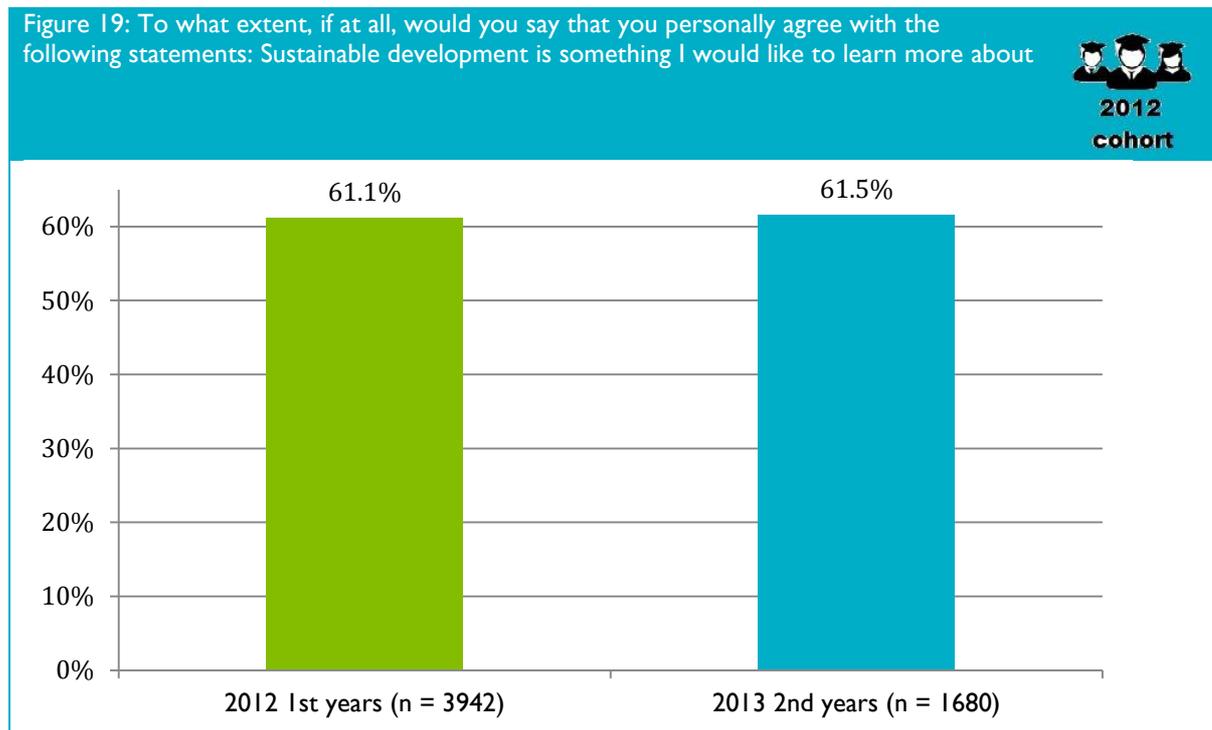


In terms of 1st year responses, no significant differences are seen in terms of desire to learn more about sustainability between the 2013 intake and previous intakes included in this research.



Further analysis of the 2013 responses has however revealed a significant difference in the desire to learn more about sustainable development between UK and international students, with around

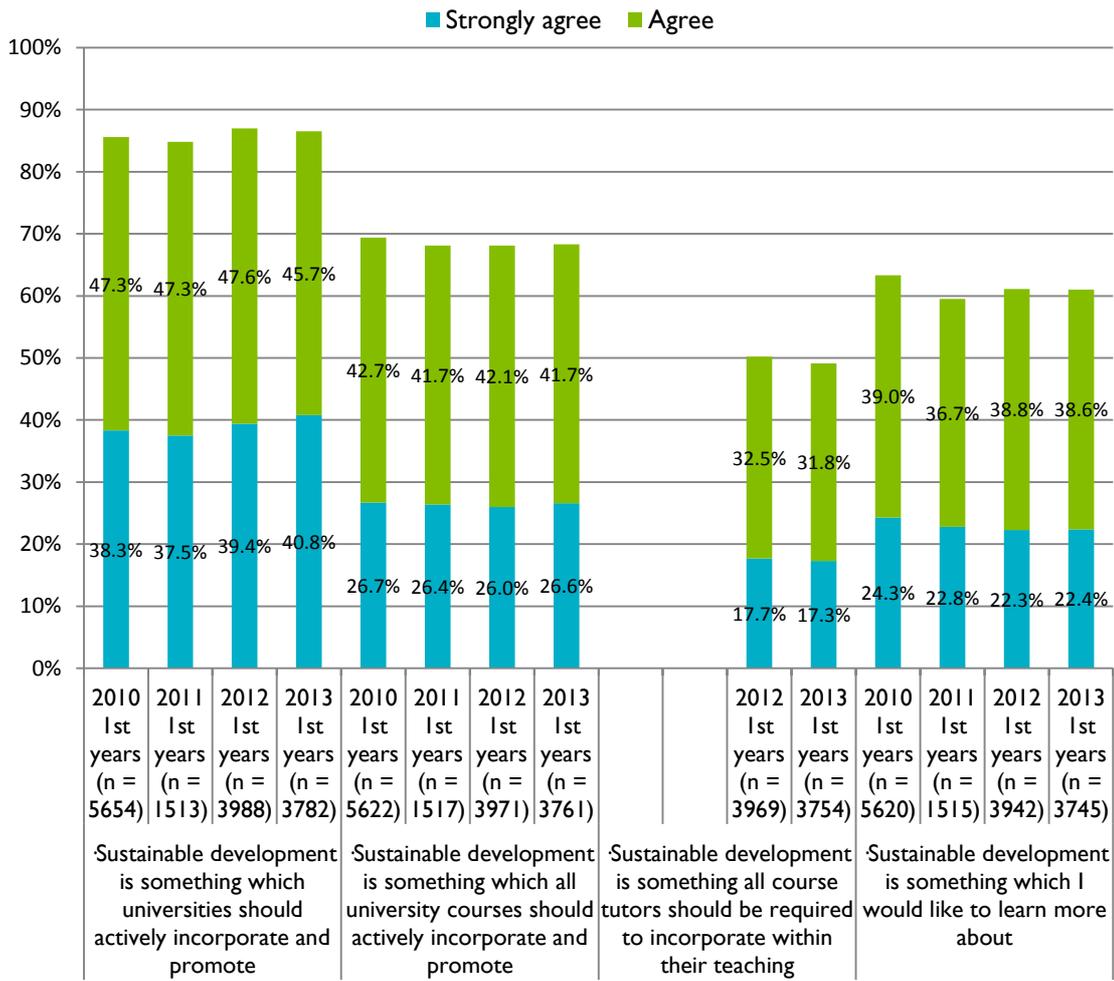
three quarters of international students agreeing that they would like to learn more about sustainable development. For example, 74.4% (n=128) international students (EU and non-EU) in their 2nd year say they would like to learn more compared to UK 2nd years (59.8%, n=895). This also applies for 1st year respondents in 2013. The relatively small sample size for international students here means these results are worth further investigation.



 Within the same question, respondents continued to confirm their desire for sustainable development to be actively promoted and incorporated by their university with 86.5% (n=3283) 2013 1st years and 86.8% (n=1477) 2013 2nd years expressing agreement. This finding again validates the expressed views on relevance and importance (see figure 20) for their time in higher education earlier within this report. Again, there are significant differences between UK and international students in terms of their desire to see action from their institution on sustainable development. Whilst overall agreement is consistent between the groups, international respondents exhibit greater strength of agreement that universities should actively promote and incorporate sustainable development with 48.1% (n=185) strongly agreeing with the statement compared to 40% (n=1351) UK 1st years reporting that they strongly agree. Again, the small sample size from within the international student population means that this finding warrants further investigation.

An additional statement introduced to the 2012 questioning also revealed a desire for an obligation to be set for course tutors to provide teaching and learning on sustainable development. This finding continues in 2013, with approximately 50% of respondents agreeing with the proposition (49.4%, n=1972 1st years 2012 and 49.2%, n=1849 1st years 2013 strongly agree or agree).

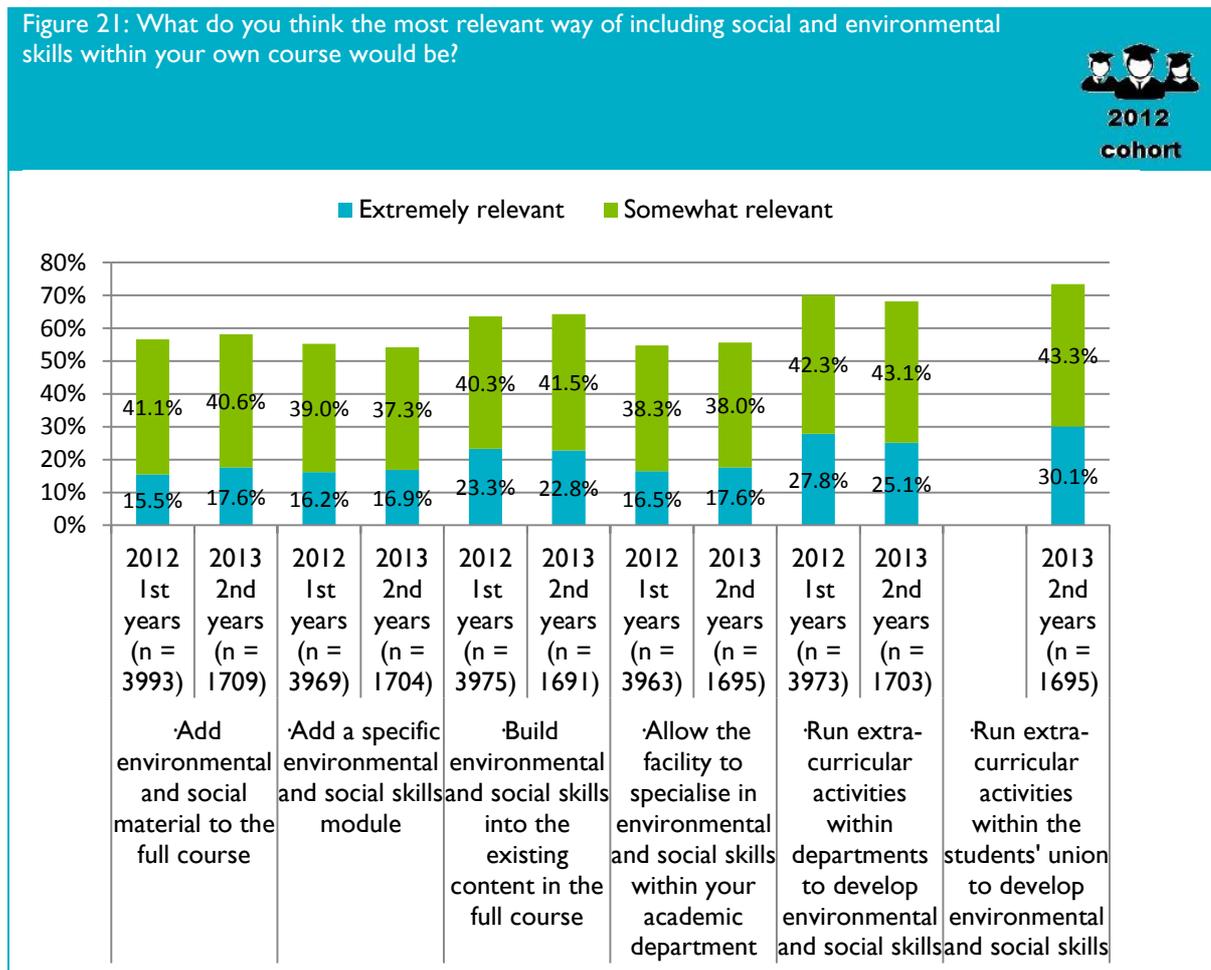
Figure 20: To what extent, if at all, do you agree with the following statements :



5.5.6 Methods of including SD

Respondents in 2012 continue to reflect the historical research findings indicating that they are amenable to the inclusion of skills for sustainable development into their courses, with a preference for sustainability content to be built into existing content rather than creating additional or specialised sustainability modules or courses.

Figure 21: What do you think the most relevant way of including social and environmental skills within your own course would be?



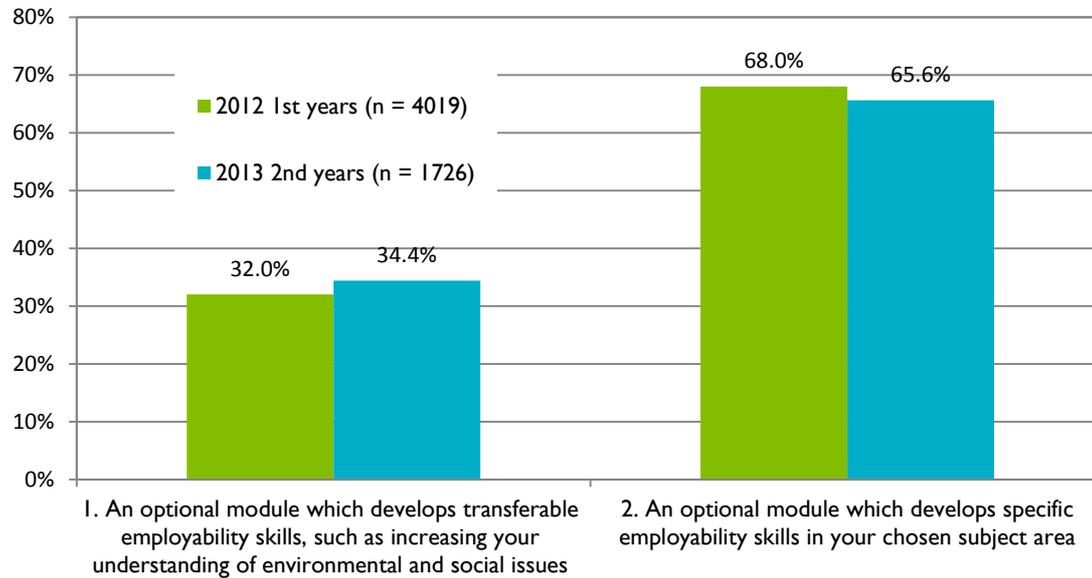
Research with the 2010 cohort uncovered changes in preferences as respondents' progress through their academic careers. Respondents in this cohort expressed an increased preference for building environmental and social skills into existing content between 1st and 2nd year, but then a decrease in preference for both this option and adding environmental and social material to the full course as they entered their final year. It was hypothesised that this change could be the potential influence of existing course commitments for third year students. Many may feel they don't have time within their schedules to fit in extra teaching and learning on sustainable development. This reason was also felt to be a possible explanation for the preference for sustainability skills to be developed as extra-curricular activities, allowing students to participate as and when they are able (for example 69%, n=2754 2012 1st years and 67%, n=1683 2012 3rd years indicated extra-curricular activities within departments as 'extremely' or 'somewhat' relevant). The 2012 cohort (figure 21) however showed no significant differences in preferences for inclusion of sustainability between 1st year in 2012 and 2nd year in 2013, excepting a decrease in preference for running extra-curricular activities within departments (70.1%, n=2786 2012 1st years compared to 68.2%, n=1163 2013 2nd years). This decrease could potentially be explained by the introduction of a new option into the questioning – running extra-curricular activities within students' unions – which was seen as highly relevant by respondents (71.5%, n=2688 2013 1st years and 73.4%, n=1246 2013 2nd years).



When unpacking the preferences for teaching and learning further and linking to employability, there continues to be a clear preference for employability skills to be targeted at chosen subject areas rather than developing transferable skills, such as environmental and social skills (for example 65.6%, n=1133 2013 2nd years would prefer an module developing skills in their chosen subject

area). Despite a non-significant decrease in favourability of subject-specific skills, this continues to demonstrate the importance of understanding student definitions of sustainability (environmental and social skills) and also of enhancing precise understanding of the skills needs and desires of employers by sector to ensure graduates leave with the necessary attributes (see figure 21).

Figure 22: We are interested in your prioritisation of social and environmental aspects in the future. Please select which option you would choose.



5.6 Sustainability and employability

Key findings

- Matching previous waves of research, skills for SD are overwhelmingly expected to be important for employment with between 80 and 90% of 3rd years in 2013 ranking the majority of skills as important or very important.
- The more generic skills around adaptability and communication continue to be ranked higher than those overtly related to ethics and the environment.
- Other key skills such as numeracy, business and customer awareness also receive relatively low ranking confirming the need to ensure student perceptions match the reality of employers' needs.
- The majority of respondents in 2013 believe they are able to put into action the skills they perceived employers to be looking for however this reinforces the need to ensure students are correct in their understanding of employer needs and demands.
- Of those who did identify a need for further skills development, completing an internship or work placement was seen as the most appropriate way of doing so. This option has seen a significant increase in 2013 compared to responses in 2011 and 2012.
- Preference for teaching on skills for employability increases as respondents progress through their university careers over and above further teaching on their chosen subject on a non-significant basis amongst the 2012 cohort.
- Approximately two thirds of respondents continue to agree that they would sacrifice £1000 from the average graduate starting salary to work in a company with a strong environmental and social record. The willingness to accept this sacrifice is significantly higher amongst 1st year intakes in 2012 and 2013 (post-tuition fees increase) than in 2010 and 2011. Unlike the 2010 cohort, respondents beginning their university careers in 2012 do not show an increase in willingness to make this sacrifice as they enter their second-year at university.
- Two fifths go on to state that they would be prepared to accept a £3000 salary sacrifice from the average graduate starting salary to be able to work in a company with a strong social and environmental performance. In contrast with the willingness to accept a £1000 salary sacrifice, 2nd years in 2013 are more likely (on a non-significant basis) to make a sacrifice of £3000 to their salary. 1st years in 2013 were significantly less likely to accept a lower salary than 1st years in previous years of this research.
- Individual impact can be seen as an important driver in willingness to make sacrifices to salary, as significantly more 1st and 2nd years in 2013 report being willing to make a salary sacrifice of £3000 for a role that contributes to positive environmental and social change compared to a role within a company that has a strong record in this area.

As with the historic research carried out by NUS and the HEA, skills in sustainable development are expected to be overwhelmingly important for employment.



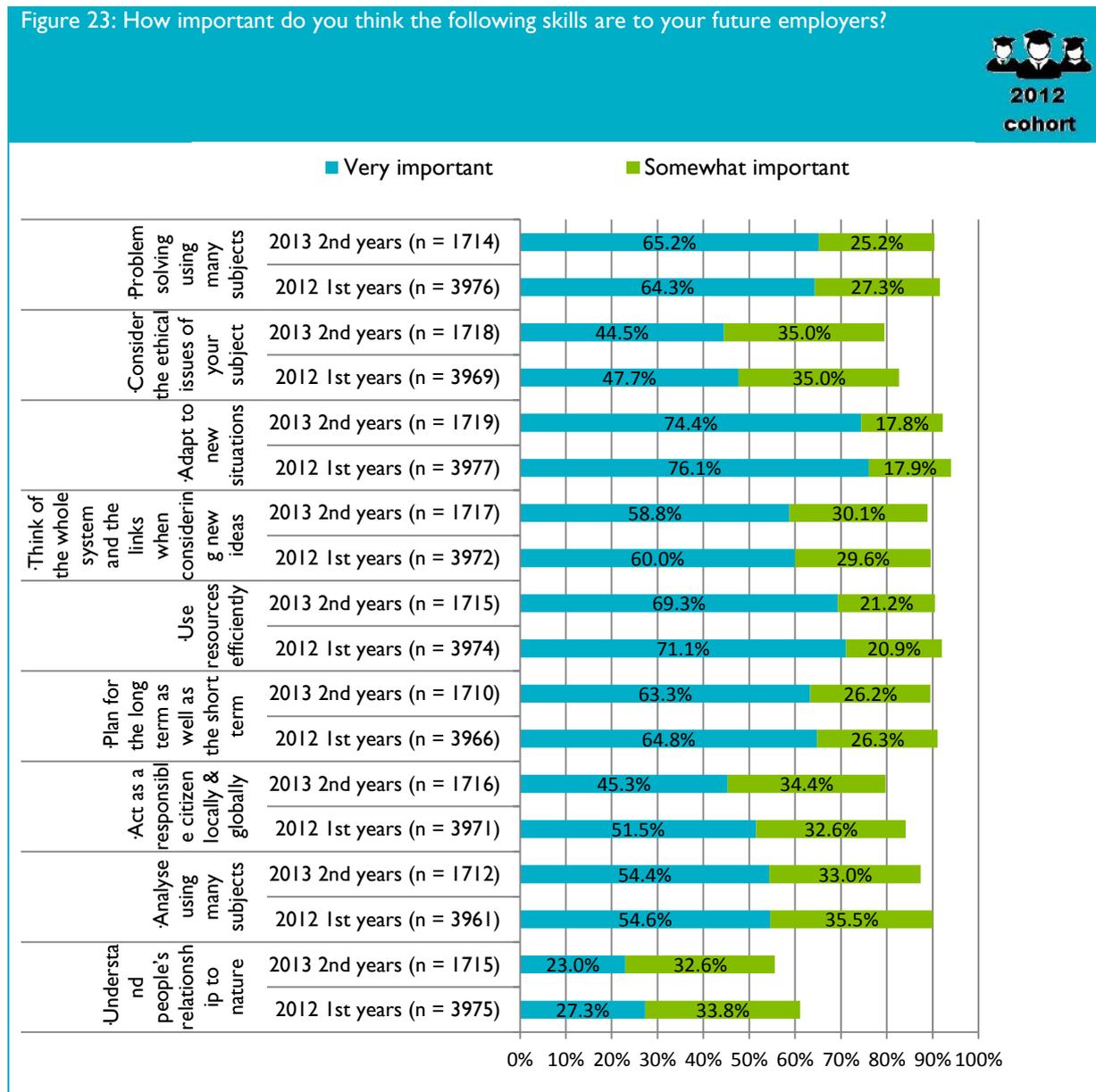
2012 cohort Figure 23 shows that between 80% and 90% of 2012 3rd years continue to rank the majority of skills as important or very important in terms of employment. As was highlighted earlier in this report when considering the relevance and importance of skills for their time during higher education, one exception is the ability to 'understand people's relationship to nature' which is seen as less important by 2013 2nd years, continuing a trend seen in their 1st year (2012) (61.1%, n=2428, compared to 55.6%, n=954 respectively). This also matches the trend seen in the 2010 cohort.

Further analysis of changes throughout their time spent in higher education highlighted that a wide range of skills presented to respondents have decreased in terms of their perceived importance to employers between 1st and 2nd year amongst the 2012 cohort. For some skills, this is in direct contrast with the results seen in the historic research with the 2010 cohort, for example the ability to 'analyse using many subjects' has significantly increased between 2010 1st year and 2011 2nd year responses (86.3%, n=4874 to 90.4%,

n=1440). Within the 2012 cohort, 90.1% of 1st years in 2012 (n=3571) reported this skill to be important or very important, compared to 87.4% (n=1497) 2nd years in 2013 which represents a significant decrease.

The explicit SD skills however, such as ‘acting as a responsible citizen locally and globally’ also decreased significantly in terms of perceived importance for employers between 1st year in 2012 (84.1%, n=3340) and 2nd years in 2013 (79.7%, n=1367).

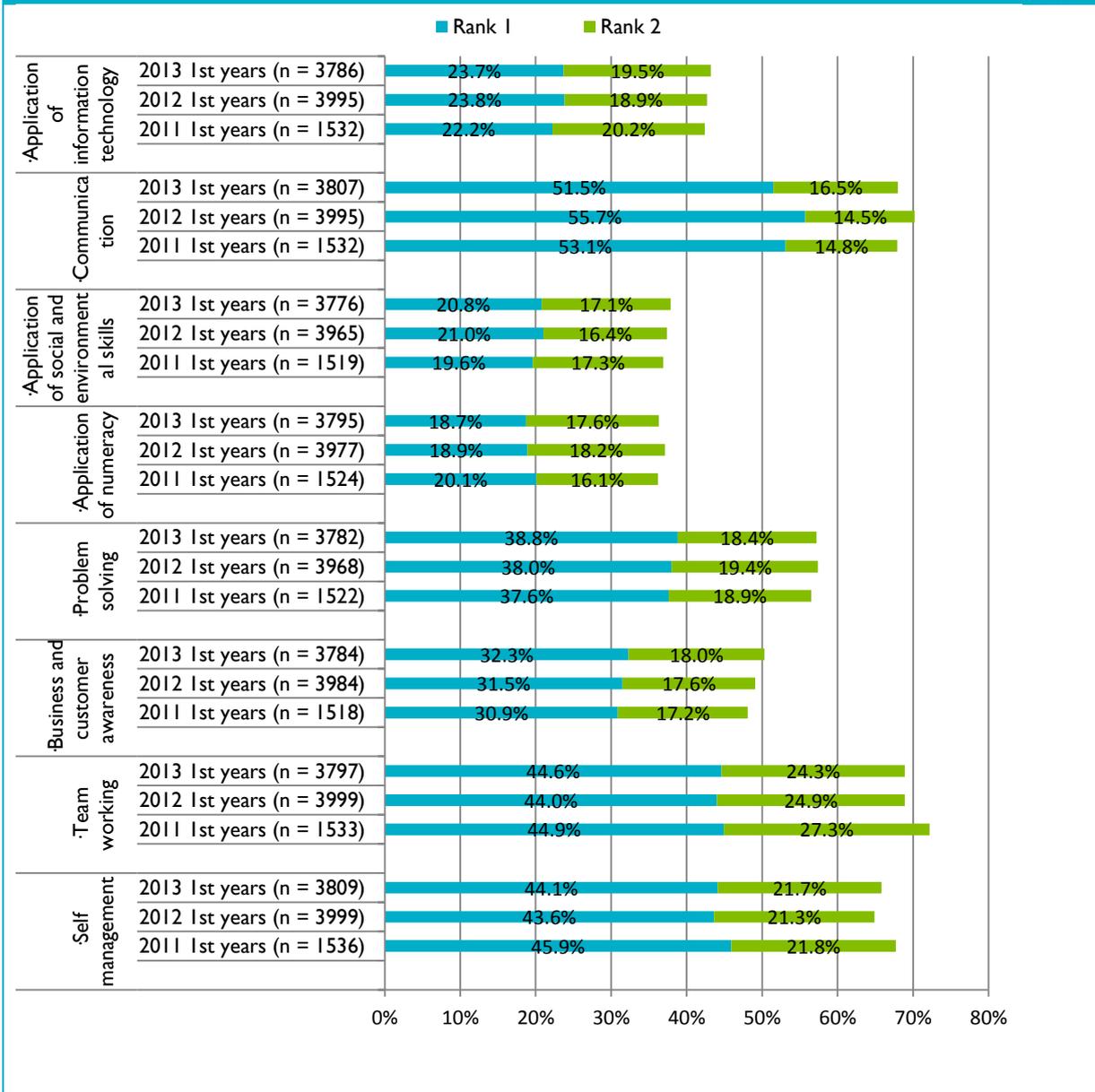
Figure 23: How important do you think the following skills are to your future employers?



These findings present a somewhat uncertain picture amongst respondents of the skills and attributes employers are looking for. Exploring this issue further by more detailed understanding of both student perceptions and employer needs would enable institutions and individuals to better equip graduates with strong skills for employment, and sustainability.

Again the research asked respondents to assess the relevance of a more generic set of skills to their future employers (figure 24). Mirroring the results of previous years, 2013 1st years indicated that they perceive skills in adaptability and communication to be valued more highly by employers than those towards the environment and ethics.

Figure 24: How important do you think the following skills are to your future employers when compared against each other? (1 is the most important)



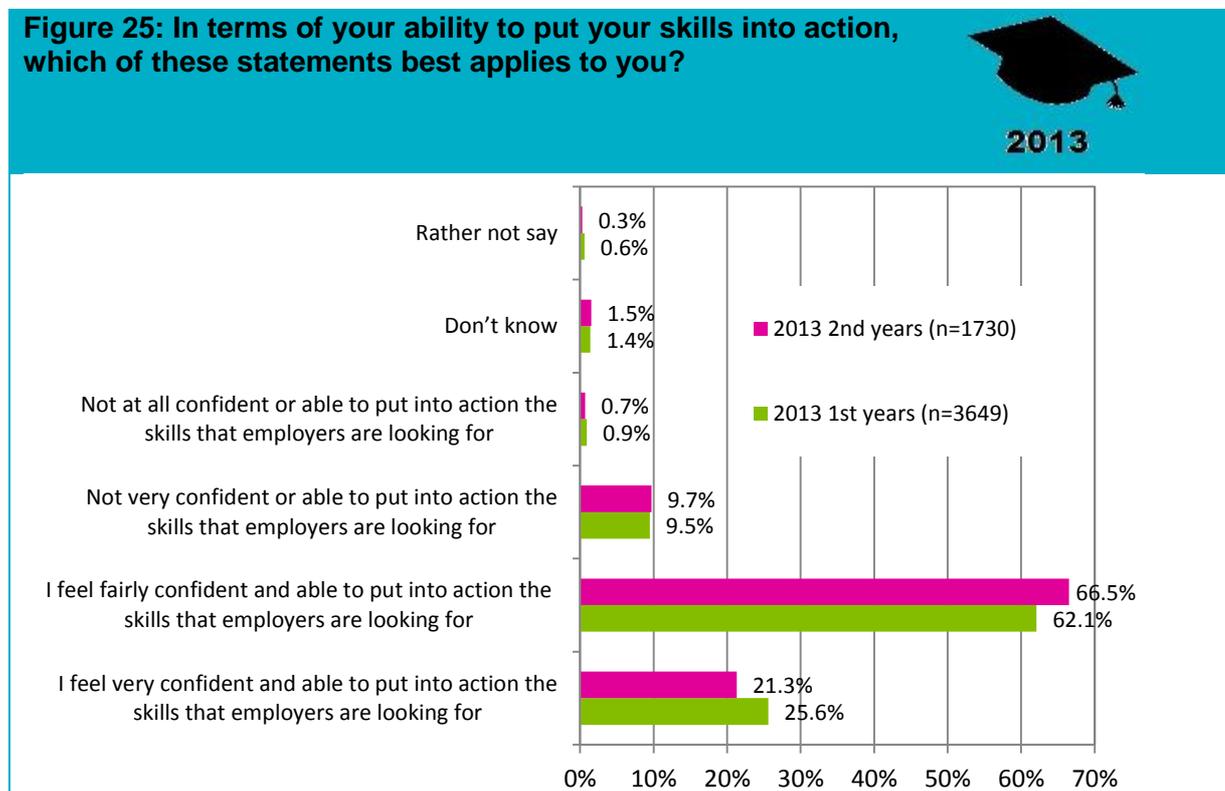
Respondents in 2013 continue the beginnings of a trend uncovered by the 2011 research in that the ability to use social and environmental skills is ranked relatively low in terms of importance. This uncertainty could be a reflection of a lack of focus on the green economy by comparison with during the peak of the economic crisis. Further research with employers to understand the extent to which these student perceptions match reality would provide useful insight to policy makers and higher education institutions alike.

Other key skills such as application of information technology (43.2% 2013 1st years, n=1640 ranked as 1 or 2), application of numeracy (36.3% 2013 1st years, n=1381 ranked as 1 or 2) and business and customer awareness (50.3%, n=1908 2013 1st years ranked as 1 or 2) receive relatively low ranking by students again suggesting that further work is needed to ensure student perceptions match with the reality of employer preferences and demands.

5.6.1 SD skills ability

Since 2012, the research has also asked respondents to assess their ability to put into action the skills they perceive employers to be looking for.

 Reflecting the existing findings, the majority of 2013 respondents (87.7%, n=3200 1st years in 2013) are confident that they will be able to put into action the skills that employers are looking for upon entering the workplace (figure 25). Given the findings highlighted in the previous section of this report, it is worth ensuring students and HEIs have an accurate understanding of the skills needed and valued by employers. Research elsewhere has also highlighted a disparity between graduate evaluations of their own skills and employers²⁴.

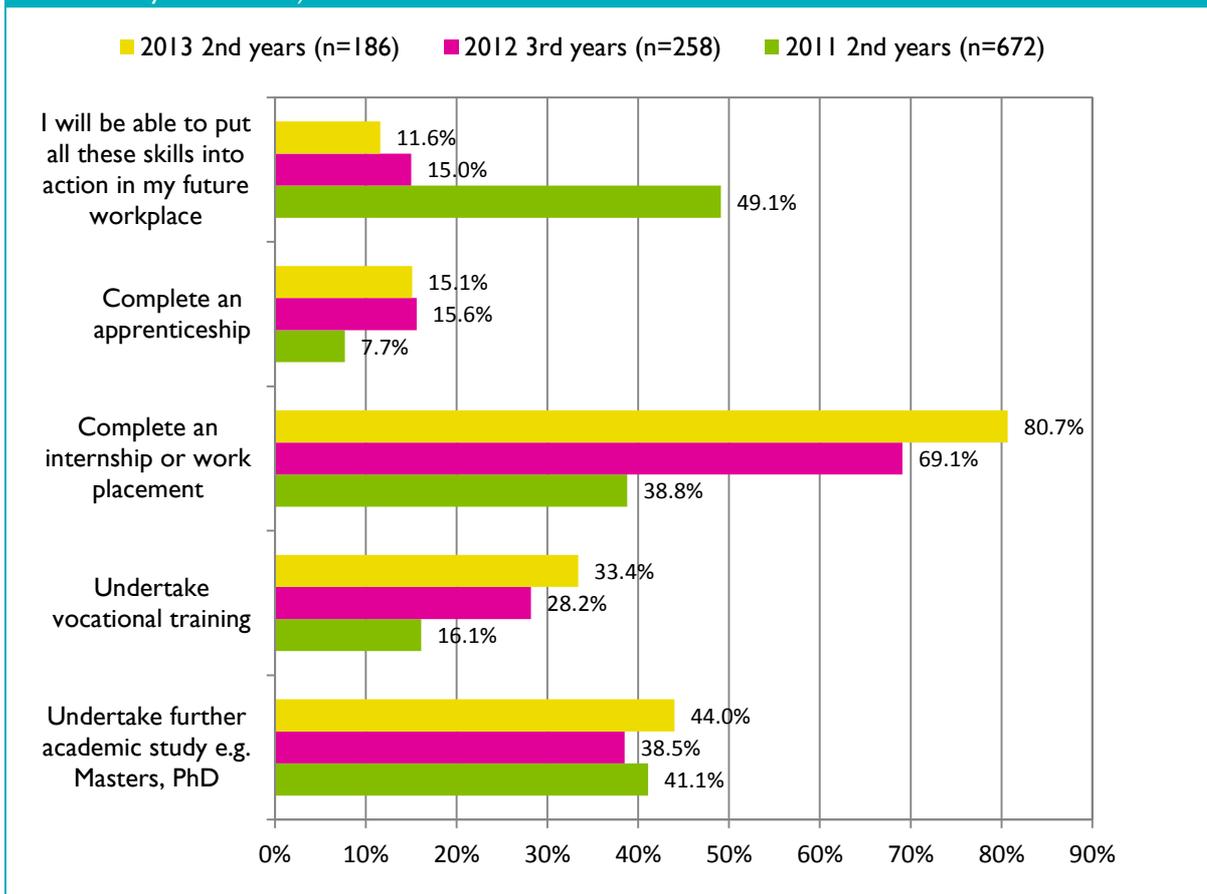


In terms of improving skills, the relatively small number of respondents who did not feel confident and able to put into action the skills desired by employers believed the two main options to be completing an internship or work placement (80.7% 2013 2nd years, n=143) or undertaking further academic study (44%, n=78 2013 2nd years) (see figure 26). The importance of undertaking an internship or work placement has seen a significant increase since the previous round of questioning amongst 2nd year students in 2011 when just 38.8% (n=261) reported it to be an important way of developing the necessary skills for employment. This change can be seen as a reflection of demand from employers, with approximately half of employers taking part in research focused on graduate recruitment within The Times top 100 graduate employers stating that ‘graduates who have had no previous work experience at all are unlikely to be successful during the selection process and have little or no chance of receiving a job offer for their organisations’ graduate programmes²⁵.

²⁴ HEA and the National Co-ordinating Centre for Public Engagement, (2012)

²⁵ High Fliers Ltd., (2014), The Graduate Market in 2014

Figure 26: What steps do you think will be necessary to develop these skills following completion of your course? (Those who responded negatively at Figure 25 – please note small sample sizes .N.b. question not asked to 1st year students)

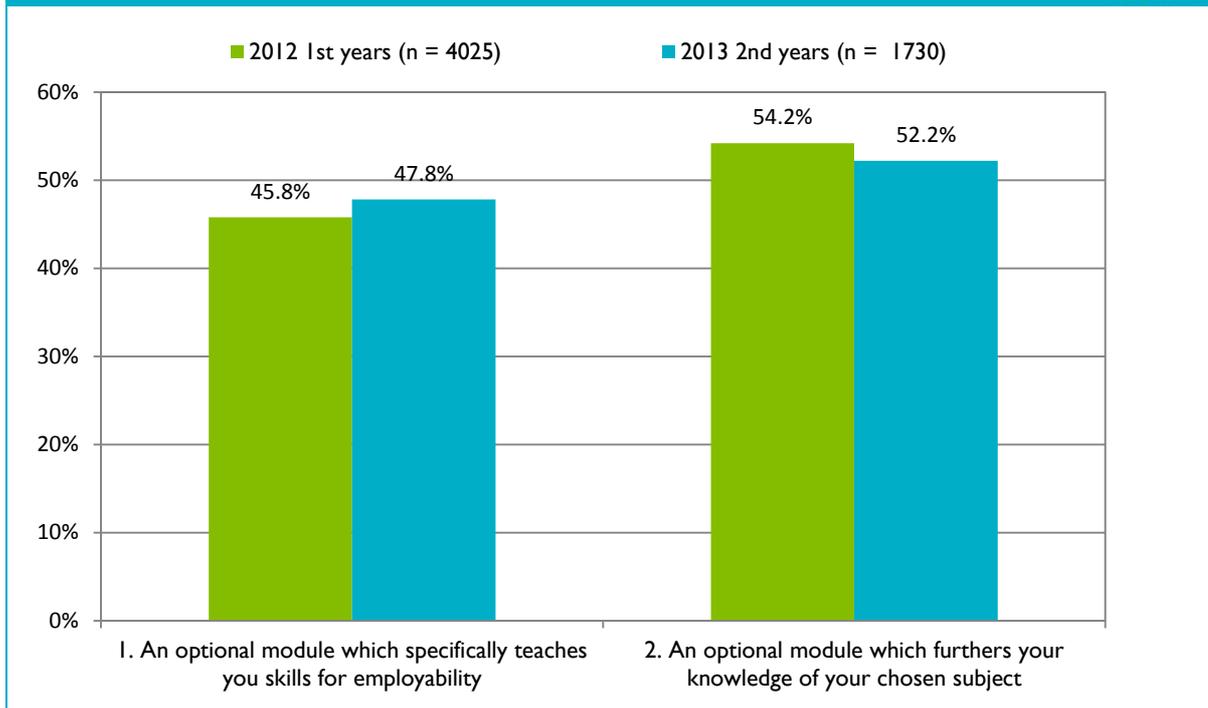


Continuing the theme of learning for employability a clear trend emerged over the previous three waves of research which demonstrated a shift in focus amongst respondents as they progress through their university career. The historic research found the preference for an optional module which teaches specific skills for employability to be significantly higher amongst 3rd year respondents in 2012 (52.1%, n=1323) than amongst the same year group when surveyed in 2011 (2nd years, 49.7% n=799) and 2010 (1st years 46.8%, n=2667). The 2012 cohort appears to be mirroring these results, as shown by figure 27, but on a non-significant basis (e.g. 45.7%, n=1843, 2012 1st years show a preference for a module on employability compared to 47.8%, n=827 2013 2nd years).



When comparing responses from 1st year students, preference for an optional module which furthers knowledge of their chosen subject above that which focuses specifically on employability continues throughout the research from 2010 to 2013. In each wave of the research, just over half of 1st year respondents indicated a prioritisation of furthering subject knowledge (2010 53.2%, n=3030, 2011 53.1%, n=816, 2012 54%, n=2184, 2013 53.2%, n=2033).

Figure 27: We are interested in your prioritisation of social and environmental aspects in the future. Please select which option you would choose.

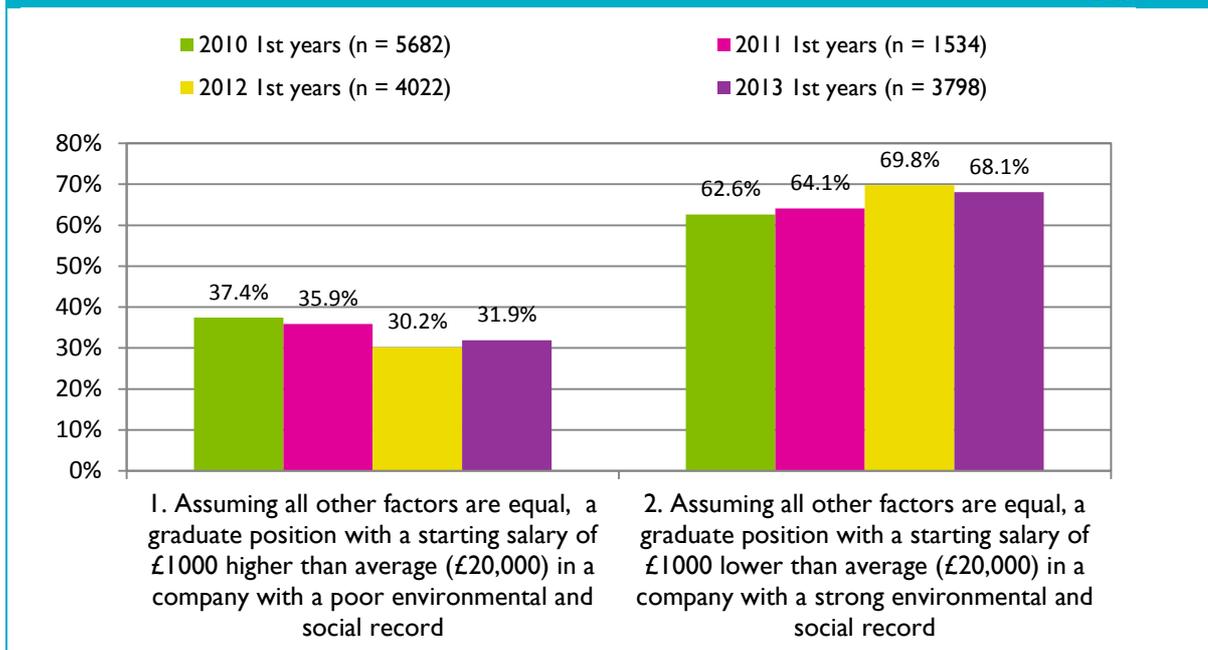


The previous finding that a role exists for communication of company ethics and environmental performance throughout the student journey continues to hold in 2013. Approximately two thirds of respondents say they would sacrifice £1,000 from salary to work in a responsible company with a positive social and environmental record.



Unlike the 2010 cohort, there is no significant difference in the willingness of 1st and 2nd year students in the 2012 cohort to make a salary sacrifice to work for a socially and environmentally responsible company (69.8%, n=2807 2012 1st years compared with 68.2%, n=1179 2013 2nd years). Further research with this cohort will be essential to assess the validity of the previous finding that willingness to accept salary sacrifice at this level increases as respondents progress throughout their university careers.

Figure 28: We are interested in your prioritisation of social and environmental aspects in the future. Please select which option you would choose.

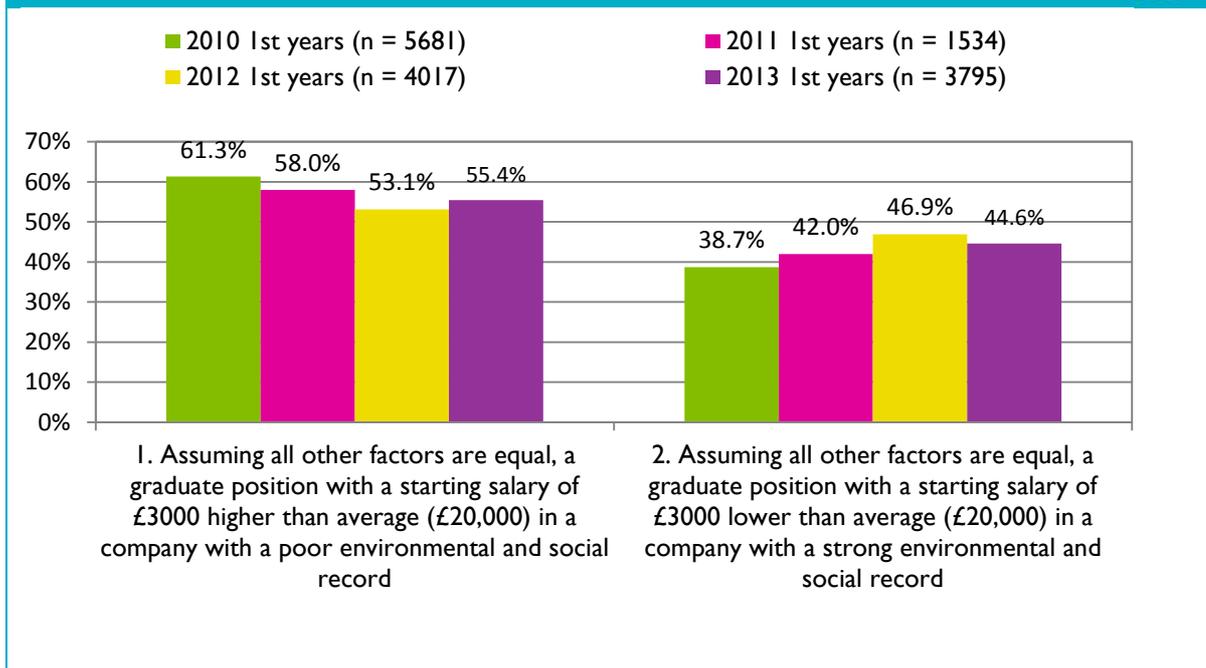


In 2012 the choice of a starting salary £1000 lower than average (£20,000) in a company with a strong environmental and social record was also increasingly frequent amongst 1st year respondents (69.8%, n=2761) with as significant increase on the responses from 2011 1st years (64%, n=983) (see figure 28). The results from 2013 1st years are aligned closely with those seen in 2012, with those willing to make a salary sacrifice being significantly higher than in 2010 and 2011. The 2011 report put forward the hypothesis that the increase in tuition fees would have a negative influence on the number of 1st year respondents willing to accept a salary sacrifice due to increased concern over load repayments and debt. From the data collected in 2012 and 2013 this does not appear to ring true. An alternative hypothesis for the responses seen might be the effect of continued levels of unemployment following graduation, with a third remaining unemployed within 6 months of graduation²⁶. It will be interesting to assess the impact of early signs of economic recovery on the results presented here.

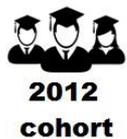
The trend is however less pronounced when the sacrifice is increased to £3,000. At this salary point, approximately two-fifths of respondents report that they would still sacrifice £3,000 of their salary to work in an environmentally and socially responsible company (see figure 29 below).

²⁶ http://www.hecsu.ac.uk/current_projects_what_do_graduates_do.html

Figure 29: We are interested in your prioritisation of social and environmental aspects in the future. Please select which option you would choose.



The 1st year intake in 2013 continue to exhibit a willingness to accept a position in company with strong environmental and social performance with nearly a half of respondents opting for a salary sacrifice of £3000 (44.6%, n=1698). 2013 1st years however, reverse the trend seen previously, with the proportion of respondents willing to make this sacrifice significantly lower than in 2012 (46.9%, n=1885). It is possible that these results are a reflection of reports of an improving economic situation within the UK however further research would be required to unpack the finer detail of these findings.



2013 respondents continue the trends emerging in the previous analysis of results from the 2010 cohort. 2nd year respondents in 2013 are more likely (on a non-significant basis) to opt for a starting salary £3000 below average than the same year group responding to research in 2012 (as 1st years) (46.9%, n=1885 2012 1st years compared to 44.4%, n=765 2013 2nd years).

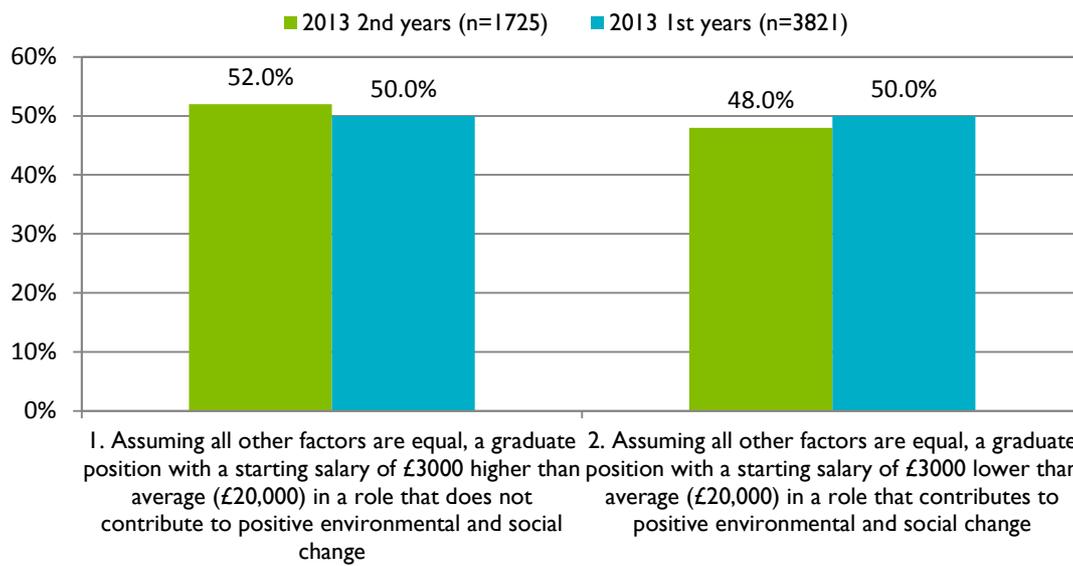


In 2013, respondents were also asked to consider making the same salary sacrifice of £3000, but specifically for a role that contributes to positive environmental and social change rather than a company as a whole that has a strong record in this area (figure 30). Approximately half of respondents in 2013 reported that they would be willing to make this sacrifice (50%, n=1909 2013 1st years and 48%, n=828 2013 2nd years). Interestingly, both 1st and 2nd year respondents are also significantly more likely to say that they would be willing to make a £3000 sacrifice for a role that contributes to positive environmental and social change rather than a company that has achieved in this area on the whole. Further research could investigate the extent to which personal rather than organisational contribution influences motivation. Additionally unpicking the influence of the language used in the questioning, for example the influence of the word ‘change’ and ‘positive’ rather than ‘strong’ and ‘record’.

Figure 30: We are interested in your prioritisation of social and environmental aspects in the future. Please select which option you would choose.



2013

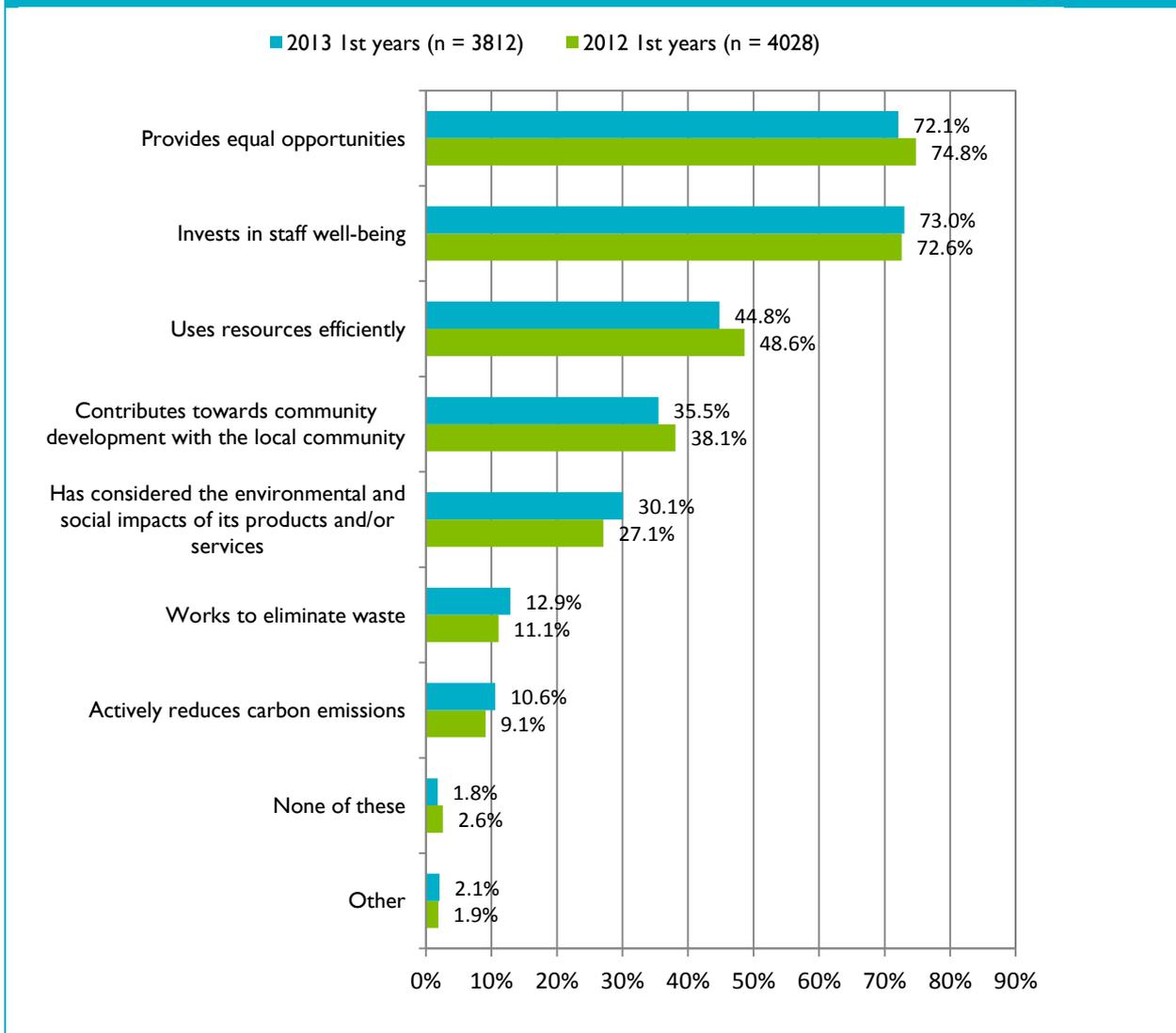


Employer attributes

The 2012 research also contained additional questioning on the desirability of individual environmental and social qualities amongst potential employers. Figure 31 shows clearly that the ‘social’ or ‘individual’ attributes continue to be ranked higher amongst respondents than the overtly environmental or community-focused attributes. For example, 72.1% (n=2757) of 2013 1st year respondents will be looking to work for an employer that provides equal opportunities, compared to just 10.6% (n=405) 2013 1st years looking to work for a company that is actively reducing its carbon emissions. Despite this, 2013 1st years are significantly more likely to rank ‘has considered the environmental and social impacts of its products and/or service’ as one of their top three attributes for future employers (27.1%, n=1092 2012 1st years compared to 30.1%, n=1152, 2013 1st years).

Figure 31: Which of the following attributes will you be looking for in your future employer?

Please select the three most important attributes

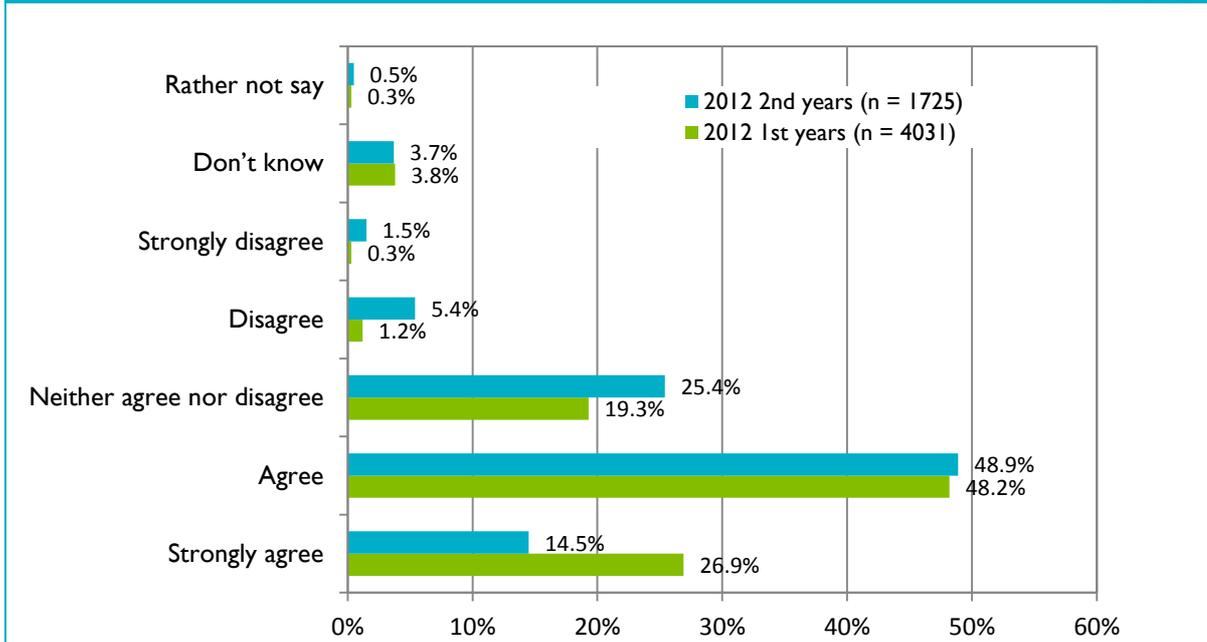


In terms of the institution they are attending, the majority of respondents agree that their institutions are preparing them to work for an employer with these attributes, however significantly fewer 2nd year respondents 'strongly agree' that their university / college is increasing their potential to work for a company that meets these attributes (26.9%, n=1085 2013 1st years, compared with 14.5%, n=250 2013 2nd years).

Figure 31: To what extent do you agree that your university / college course is increasing your potential to work for a company that meets these attributes?



2012 cohort



6. Conclusions and implications

The following chapter provides an overview of the research findings. The first two sections (6.1 and 6.2) present the key trends seen over respondents' careers in Higher Education and across first-year intakes. The remaining sections cover findings from the key themes within the research. Given the continuing similarity between the three waves of research from 2010 to 2013 it is worth reiterating and reinforcing the conclusions that have been presented previously.

6.1 2012 cohort: The student journey from first-year to second-year



2012 cohort

In terms of understanding of sustainable development, the definitions offered by respondents this research suggest that there has been no great change in understanding during their time in higher education. The 2012 cohort are reflecting the trend identified historically of a peak in pro-environmental behaviour during their second-year, coinciding with a move to more independent living. Looking at sustainability skills a similar trend continues to be seen with an increase in the extent to which respondents carry out these skills reported as they move between first and second-year.

Unlike the 2010 cohort studied in previous editions of this research, the 2012 cohort shows no increase in expectation for their institution to be actively promoting and incorporating sustainable development as respondents progress through higher education although overall expectations in this area remain high. As with the previous cohort under investigation, there is no significant variation according to year of study of respondents who agree their institution practices and promotes good social and environmental skills. Similarly, whilst desire to learn more about sustainable development remains high; there is no significant change between first and second-year responses. This finding continues to reflect a capacity for increased learning opportunities. Preferences for how these learning opportunities are delivered also remained consistent according to year of study for this cohort so far. Continued research into their third and final year would be necessary to confirm the findings uncovered historically around a decrease in preference of third years for building additional content into courses compared to respondents in their second or first years.

Preference for teaching on employability was also found to increase as the 2012 cohort advance through their university careers. When considering their options beyond education, willingness to accept salaries lower than average to work for a company with a strong social and environmental performance is (non-significantly) higher amongst second-year respondents than first-year. This applies at both £1000 and £3000 reductions in average salary.

6.2 The first-year experience: Learning over four years



The responses of first-years are fairly consistent over the four waves of the research. On the whole skills for sustainable development continue to be seen as important and relevant for graduates in their field throughout respondents' time at university. However some skills show a significant decrease in their ranking of importance (understanding people's relationship to nature and acting as a responsible citizen globally and locally) with respondents from the 2012 intake less likely to rank these skills important than in 2011 and 2010.

Building on the significant increase that was seen in 2012 in first-year expectations for their institutions to develop students' social and environmental skills, 2013 first-years also showed a significant increase. However, unlike previous intakes of first-years the 2013 intake are less likely to believe that their institution is delivering on this by practicing and promoting these skills. There are no significant differences in terms of a desire to learn more about sustainable development than counterparts in the previous intakes.

Questioning on future aspirations revealed that 2013 first-years match the increase seen in 2012 responses of a willingness to accept salary sacrifices to work in a company with a strong social and environmental record. Again this applies to a reduction of £1000 in average salary for a graduate position however the reverse applies to a sacrifice of £3000 with a significantly lower number of first-year respondents in 2013 willing to accept this.

6.3 Existing skills – the influence of Further Education

Throughout the three years of research, schools have been found to be a key vehicle for ESD. Empirical research found that respondents who had previously attended schools with an integrated sixth form showed the highest recollection of sustainability initiatives. Responses from the 2010 cohort featured in the previous research uncovered a trend of decreasing recollection of FE schemes as respondents progressed through their university careers, calling into question the depth and longevity of impact of sustainability initiatives being run in FE institutions. The 2012 cohort described in this report however do not follow this trend with second-year respondents in 2013 in fact more likely to recall FE schemes on sustainable development than when in their first year.

Reflecting this, there is still strong belief that skills associated with sustainable development are at least being partially covered. Whilst this partiality of coverage continues, the suggestion that potential exists to further increase coverage of SD within the FE curriculum also remains relevant. This is particularly the case for the coverage of understanding people-nature relationships as the most recent intake of first-years in 2013 are significantly more likely than all other first-years taking part in the research to report that this was not mentioned at all during their time in FE.

6.4 Understanding, attitudes and behaviour for sustainable development during HE

The definitions of sustainable development provided by respondents in 2013 continue in line with responses given historically in their similarity to the definition provided by Brundtland (1987). As was highlighted previously, the definitions suggest that student understanding of sustainability is limited to those surrounding nature and ethics with the wider skill set defined by the research not appearing to be defined as being related to sustainable development. This finding continues to call into question the framing of the work surrounding the promotion of Education for Sustainable Development – do schemes fall into the trap of defining sustainability interchangeably with environmentalism and would a focus on and integration with wider and 'softer' skills and competencies (i.e. graduate attributes) be more relevant to the student population?

In terms of pro-environmental behaviour, respondents continue to consider themselves in a generally positive light and continue also to be in line with behaviour reported in a national UK survey in 2009 (Defra). Intentions to carry out pro-environmental behaviours during their remaining time at university are also high in particular where behaviours have become 'social norms' such as recycling or saving energy. Intentions surrounding these behaviours peak amongst second-year respondents perhaps reflecting the move towards increased responsibility and independent living. Contrastingly relatively low proportions of respondents envisage participating in environmentally friendly schemes, although a significant increase between first and second-years in the 2012 cohort was revealed in terms of their participation in environmental clubs and societies. A possible suggestion for this is the focus on sustainability within students' unions triggered by the Students' Green Fund which will fund activity in 26 students' unions across England throughout 2013 - 2015. Previous desk reviews have highlighted the potential informal learning opportunities present, a sentiment continued to be reflected by respondents in 2013 in their preferences (discussed below) for teaching and learning on SD to include extra-curricular activities run through their departments or through their students' union..

6.5 Learning and using SD skills in Higher Education

Whilst the traditional attractants of institution and course reputation, teaching methods and entry requirements form the strongest influences over respondents' choice of institution, respondents across the four years of research reveal significant differences pre and post the tuition fee increase. Respondents participating in the research post- tuition fee increases (in 2012 and 2013) place significantly greater importance on league table results than their pre increase counterparts. This applies both for the position of the university and their individual course. Approximately a third of respondents continued to report consideration of the environmental and ethical performance of their university. This demonstrates a need to demonstrate and communicate actions to prospective students by higher education institutions including achievements in sustainability league tables such as People and Planet's Green League.

The 2013 research added to the evidence of respondents increasing the extent to which they carry out skills for sustainable development as they progress through university. The research has also highlighted an increase in perceptions of relevancy to their courses across some skills for the post increase in tuition fees intakes of first-years compared to pre-increase in fees.

Skills for sustainability continue in the most part to be seen as very important for graduates in their field by respondents to the 2013 research, mirroring the views of those participating in the previous rounds of research. The 2013 results show some differences between 1st and 2nd years, with 1st year respondents more likely to envisage some skills as more important for graduates in their field than those in their 2nd year in 2013.

The expectation for their institution to develop SD skills continues with approximately 70% of first-year respondents in 2013 agreeing that 'universities should be obliged to develop students' social and environmental skills', and again showing a significant increase on the first-year responses in 2012.

Translating these findings to their current place of study, 2013 respondents agree with those participating in the previous waves of the research in that the majority (approximately 80%) agree that their institution practices and promotes good social and environmental skills. Previous research found that perception of their institution shows no significant variation according to year of study, however tracking the 2012 cohort revealed a significant decrease in perceptions of performance between first and second-year. This trend was also seen in a fluctuation in the perceptions of first-years which had previously been increasing between 2010 and 2012.

Lower perceptions of positive practice and promotion of good social and environmental skills persist in 2013 for clubs and societies running with institutions. This continues to suggest scope for developing and improving extra-curricular informal learning opportunities. A new area of questioning in 2013 reveals a generally positive view of action taken by their students' union in promoting good social and environmental skills.

Regardless of these positive reports, respondents have consistently shown a capacity and desire to learn more about sustainability despite the good promotion of social and environmental skills experienced at their institution, particularly amongst international students. This continues in 2013 amongst both first and second-years reinforcing previous suggestions of a capacity for increased learning opportunities surrounding sustainable development. No significant differences were found across the 2012 cohort, or between 2013 first-years and previous intakes that participated in this research.

In terms of how this is delivered, a preference for SD content to be built into existing materials continues throughout the 2012 cohort and across first-year intakes. Introduced to questioning in 2012, the option of extra-curricular activities run within departments on SD continues to be seen as relevant to approximately 70% of respondents, delivered either by departments or the students' union, supporting findings in previous desk reviews that informal activities offer a good opportunity to develop sustainability skills. The ongoing research has noted a reticence amongst respondents to get involved in extra-curricular activities meaning any learning delivered using this method needs to be attractive and well communicated to potential participants.

6.6 Sustainability and employability

Reflecting previous waves of this research, skills for sustainable development are overwhelmingly expected to be important beyond their time in education and into employment with between 80% and 90% of first and second-year respondents in 2013 ranking the majority of skills as important or very important. However the 2012 cohort show an overall decrease in perception of importance for a number of skills between first and second-year, contrasting with the results seen in the 2010 cohort. This suggests a level of uncertainty around the skills expectations of future employers. As before those skills overtly related to ethics and the environment are expected to be less important than the more generic skills around adaptability and communication.

When ranking other key skills for employment, respondents in 2013 also rank skills of numeracy and business and customer awareness relatively low in terms of importance confirming the need to ensure student perceptions match the reality of employers' needs.

The vast majority of respondents in 2013 are confident of their ability to put into action the skills they believe employers are looking for – this continues to reinforce the need to ensure students are correct in their understanding of employer needs and demands and aren't acting in false confidence. Those who identified a need for further skills development believed completing an internship or work placement was the most appropriate way of doing so and this perception significantly increased since previous questioning in 2012. This can be seen as a reflection of demands from employers for working world experience as reflected in the findings of the literature review.

Respondents demonstrate a high demand for employability related learning. Reflecting the trend identified through the 2010 cohort, this study found that preference for teaching on skills for employability increases as respondents progress throughout their university careers, and whilst these skills are seen as preferable to further teaching on their chosen subject they must at least be related to their subject area.

Future facing questioning again revealed that approximately two thirds of respondents continue to agree that they would sacrifice £1000 from the average graduate starting salary to work in a company with a strong environmental and social record. Unlike the 2010 cohort, this study found that the proportion of respondents willing to accept this salary sacrifice did not significantly increase as university careers progress. 2013 first-years are however aligned with their 2012 counterparts and together they are significantly more likely than respondents prior to the increase in tuition fees to accept a salary sacrifice of £1000. The 2012 research identified continued economic difficulty in the UK as an influence on the willingness to make this sacrifice; therefore it would be interesting to continue to track these attitudes throughout the early signs of economic recovery.

Respondents in 2013 also mirror the willingness to accept a salary sacrifice of £3000 with two fifths stating that they would do so to be able to work in a company with a strong social and environmental performance. There are however differences between the 2012 cohort and the ongoing tracking of first-years. There is a

significant decrease in the proportion of 2013 first-years willing to make this sacrifice compared to 2012 first-years. Second-years in 2013 add to the trend seen in the 2010 cohort detailed in the previous research of an increasing willingness to accept a £3000 salary sacrifice as respondents progress through their university careers and closer to employment.

This research previously recommended investigating what a 'strong social and environmental performance' by a company might look like. This recommendation remains given that social or 'individual benefit' attributes shown by potential employers continue to be more attractive to respondents than overtly environmental or community-focused attributes, with only approximately 10 per cent of first and second-years in 2013 looking to work for a company that is actively reducing its carbon emissions. This picture is further clouded by the finding that significantly more first and second-year respondents in 2013 are willing to make a salary sacrifice of £3000 from the average graduate starting salary for a role than contributes to positive environmental and social change than are willing to make the same sacrifice for a company with a strong record in this area. Further research would help to unpick the desires of the current student population in terms of the relationship between their potential future roles and the overarching work of their future employers.

7. Recommendations

Based on the findings of this longitudinal study, the following recommendations apply:

Students and students' unions should:

- 1 Continue to work with course representatives to raise the importance of SD in the formal curriculum;
- 2 Build on the outcomes of the HEFCE NUS Student Green Fund to, in partnership with their parent institution, develop quality informal curricular activities that develop sustainability skills;
- 3 Encourage their institutions to take a holistic approach to SD, ultimately embedding it into their core purpose through their teaching and learning, and including within graduate attributes.

Academics should:

- 1 Continue to engage with students, students' unions, senior management and operational staff to integrate SD across the student learning and university experience
- 2 Conduct interdisciplinary teaching and research across their institutions and the HE sector that demonstrates the relevance of SD to a students' academic studies
- 3 Make use of the Quality Assurance Agency (QAA) and HEA 'Education for sustainable development guidance'²⁷

Higher education institutions (HEIs) should:

- 1 Continue to encourage academic staff to develop formal and extra-curricular resources for sustainability and employability skills relevant to their discipline;
- 2 Continue enterprise work with employers and professional bodies to develop the skills and knowledge needed for business opportunities in an emerging sustainable economy;
- 3 Conduct further research on: the importance of SD skills to graduate employers; community, student, and academic partnerships for SD; the different definitions and application of SD being used by students, academics, and policy makers.

Government and policy makers should:

- 1 Increase the resources and support for the higher education (HE) sector in responding to the clear student demand for SD to be promoted in and incorporated by their institutions;
- 2 Continue to promote the importance of SD across the HE sector and to the student population
- 3 Support HEIs in the evaluation of SD performance, for example through the inclusion of questions in the National Student Survey;

²⁷ <http://www.qaa.ac.uk/en/Publications/Documents/Education-sustainable-development-Guidance-June-14.pdf>

Employers and professional bodies should:

- 1 Work with HEIs and policy makers to identify the skills and knowledge needed for business opportunities in a sustainable and responsible economy;
- 2 Work with academics to incorporate professional sustainability skills into the curriculum and extra-curricular activities;
- 3 Work with students' unions on providing opportunities for work placements and internships that provide professional and subject relevant experience, whilst improving sustainability skills for students.

In summary, in response to the clear student demand, we continue and reinforce our recommendations that all HEIs adopt a holistic approach where students, senior management, academic staff, estates staff, employers and professional bodies work together on embedding SD throughout all curriculum, extra-curricular, operational, research, and enterprise activities.

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