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Original Citation

Cani, Rita (2015) Sustainability Literate Graduates: Linking Education for Sustainable Development within Higher Education with the 'Skills Gap' in the Employment Market. *Fields: journal of Huddersfield student research*, 1 (1). e6. ISSN 2057-0163

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Sustainability Literate Graduates: Linking Education for Sustainable Development within Higher Education with the 'Skills Gap' in the Employment Market

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Abstract

This paper considers the effects of education for sustainable development (ESD) on undergraduates within higher education (HE), through learning outcomes from courses and campus activities. It is high on the agenda of global governments and educational authorities to encourage organisations and economies to become more sustainable, which can be achieved primarily by educating future decision makers, professionals and leaders. Firstly, an overview of secondary data on sustainability and ESD in HE is offered; then, findings and further discussion, contributing to the knowledge and creating opportunities for further explorations in the field. The data was obtained from University of Huddersfield undergraduate students and 'LinkedInTM' discussion groups. This paper highlights a lack of sustainability skills and confidence between students, despite strong interest in the subject, and identifies potential issues, leading to a lack of sustainability literate graduates in the UK employment market.

Keywords: Sustainability, Sustainable Development, SD in HE, Business Studies, Skills Gap, Graduate skills, Employment Market

<http://dx.doi.org/10.5920/fields.2015.116>

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Introduction

The purpose of this paper is to offer insights in learning outcomes from subjects related to environment and sustainability in HE, as well as the University's involvement in 'green' activities. The paper highlights various issues arising from the research, related to undergraduate skills for sustainable development (SD) developed in HE, and how it is linked to the employment market. The research was conducted in 2014, to fill the knowledge gap in academic research, regarding effectiveness of sustainability in higher education (Adom̂pent, et. al., 2014). Data were collected from 182 undergraduate students from various courses at the University of Huddersfield. Additionally, 10 students were interviewed and professional opinions about the subject were collected from the 'LinkedIn™' online discussion groups. The study considers purpose and importance of sustainability concept in the broader context. Moreover, it attempts to identify the role sustainability plays in higher education and on the other hand, HE requirements, and contribution towards SD and society as a whole.

Sustainable Development and Lack of Sustainable Leaders

The past decade has seen rapid development of environmental and education policies, and a recent surge in research on the subject; this is due to an increasing scarcity of global natural resources (Bartels & Parker, 2011; Norton, 2010), which is more and more difficult to ignore. One would agree with the European Environment Agency [EEA] (2010) and Reid, et al. (2010) that it is critical to realize that human actions are having a negative impact on nature, increasing poverty and possibly social and economic system disturbances, which can put at risk current and future generations. Likewise, the head of the World Bank, Kim (2013, p.1) encouraged world leaders and scientists to work together on an action plan to tackle problems of Global warming, because 'battles over water and food will erupt within the next five to ten years as a result of climate change.'

Evidence shows that world Governments have undertaken steps towards resolution of the environmental problems, which started 20 years ago (UNESCO, 2014). The World Commission on Environment and Development, in 1987 wrote the 'Our Common Future' report, which brought to light the new concept of sustainability (Ricketts, 2010). The definition was coined for sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own 'needs' (Bartels & Parker, 2011, p.2). The idea of SD as an internationally accepted concept gained power after the 1992 Earth Summit in Rio de Janeiro. For a long time, however, there was no clarity between environmental literacy, environmental science and/or education, sustainability, and sustainable development (Redclift, 1999; Reynolds, Brondizio & Robinson, 2010). As a result, to further improve the understanding of SD, in 2005 the United Nations World Summit confirmed the idea of three supporting factors, which are interconnected - the economic, social and environmental; also known as a 'triple bottom line' (Christie, Miller, Cooke & White, 2013; Quality Assurance Agency & HEA, 2014). Major emphasis was put on how economy and society impact on the environment (Marale, 2012; Stubbs &

Cocklin, 2008). In June 2001, the European Council confirmed that: 'Sustainable development is not a choice. It's an imperative' (Europa, 2001, p.1), making it a priority of governmental policies. More recently, conference RIO+20 was held in 2012, with the aim to assess and review the main objectives for 'green economy', reduction of the poverty and sustainable development of organizations (UNESCO, 2014).

The term sustainable development has not only been applied to organisations but also to educational institutions, known as education for sustainability (EfS), or education for sustainable development (ESD), which was first devised by UNESCO and later accepted by the European Amsterdam Treaty, the Organisation for Economic Co-operation and Development (OECD), the Higher Education Funding Council for England (HEFCE) and the Learning and Skills Council (Bosselmann, 2001). Currently, there is a wide spread belief that sustainability concept is the only approach to resolve global environmental problems and improve the lives of current and future generations, with education playing a crucial role in the process (Copland, 2013, Christie, Miller, Cooke & White, 2013; Europa, 2001; Jensen, 2011; HEPS, 2004; Kim, 2013; Marale, 2012; Ricketts, 2010; Stubbs & Cocklin, 2008; Quality Assurance Agency & HEA, 2014; UNESCO, 2013; United Nations, 1992; Wals & Jickling, 2012). However, Cortese (2003) proposed that urgent changes are necessary in the thinking of the future workforce and leaders, to achieve functional impact (Orr, 1994).

Evidence shows that businesses remain strongly engaged with issues concerning climate change, (HEPS, 2004; UNESCO, 2013), however, the CIPD Annual Survey Report of 2012, showed that there are difficulties in recruiting graduates with the right skills of sustainable leadership and management in the UK. Furthermore, a recently conducted survey by the United Nations Global Compact & Accenture (2010) of a thousand CEOs from over 100 countries showed that many current managers and leaders are lacking sustainability skills, which are required for the future success of businesses (Lacy, Haines & Hayward, 2012). The findings are in tune with the ideas of Anonymous (2011) and Lacy, Haines & Hayward (2012), who wrote that the mind-sets and views about successful leadership have to change in order to embrace the concept of SD across all industries, whether in science, business, education, or government. In support to the above ideas, it has been identified in the UK Government Growth Review that only *effective and responsible* leadership can help to achieve a sustainable economy (Department for Business Innovation & Skills [BIS], 2012).

Education for Sustainable Development in Higher Education Institutions

Sustainable development has become an integrated part of business strategies, therefore leaders capable of providing change and support are required (Department for Business Innovation & Skills [BIS], 2012). Numerous Global organisations are in agreement with the ideas about the power of education, to achieve necessary changes in the culture of society, moving towards a more sustainable era (Bushell & Goto, 2011, Boks & Diehl, 2006; Cortese, 2003; Ferdig, 2007; Lozano, 2010, Sibbel, 2009). However, it is

evident that there is a lack of sustainability literate managers and leaders, based on the CIPD Annual Survey Report of 2012, and BIS (2012) findings. This is in line with Martin and Jucker (2005) who have criticized highly educated world leaders, calling them 'sustainability illiterate', due to the failure to achieve sustainable global targets. Similarly, Cortese (2003) and Ricketts (2012) have pointed out that education without SD can worsen already existing problems, because society is led by professionals graduating from universities, who have developed into '...effective vandals of the Earth' (Orr, 2004, p.5). Therefore, one agrees with the suggestion of Bokova (2012), that transformation of education is needed to allow the preparation of professionals capable of running responsible businesses, to meet the growing demands of society for a greener economy (UNESCO, 2012).

Since 1987, numerous initiatives have been created to provide universities with a framework for integration of sustainability into all aspects of higher education, and as a reminder of the obligations and international priorities in promoting sustainable lifestyles, innovations and careers (Littledyke, Manolas & Littledyke, 2013; Lozano, Lukman, Lozano, Huisingh & Lambrechts, 2013). Some of them are: UNESCO Decade of Education for Sustainable Development (DESD) (2005-2014), United Nations Commission for Europe to support SD across Europe (Sterling & Scott, 2008), HEFCE Sustainable Development in Higher Education plan (2005), and the report from the UK Government, 'Securing the future: delivering the UK sustainable development strategy' (Christie, Miller, Cooke & White, 2013; Ryan & Tilbury, 2013). According to Nejati and Nejati (2013), developments of sustainability policies have led to higher education institutions (HEIs) being assessed by different criteria, causing universities to change educational systems and overall visions. Recent evidence by Hopkins (2012) suggests that during the past 20 years, education for sustainable development has grown, evolved and matured within higher education. Also Geli de Ciurana and Filho (2006) reported that HEIs view sustainability as a central goal, especially business schools who have incorporated SD into their teaching structure (Cortese, 2003; Jones, Selby, Sterling & IIED, 2010; Lozano, 2006; Thomas, 2005; Velazquez, Munguia & Sanchez, 2005; Wemmenhove & de Groot, 2001).

On the contrary, Wals (2014) highlights that due to pressures from HEFCE in the UK, the SD concept has gained power in the education systems and campus activities; however, Hopkins (2012) as well as Nejati and Nejati (2013) noted that some universities have not undergone changes, due to a lack of knowledge of SD amongst academics and stakeholders. In a similar manner, Ryan and Tilbury (2013) wrote that education for sustainable development is included in most HE learning backgrounds in the UK, but then again, despite the government support, good practice has been very uneven throughout the UK (Littledyke, Manolas & Littledyke, 2013; UNESCO, 2013). Following on, Sterling and Scott (2008), raised concerns about insignificant changes in HE, due to universities remaining traditional and unable to fulfil demands from organisations for responsible leaders (Lozano, et al. 2013), or going through a slow process to adopt sustainability (Boks and Diehl, 2006; Bosselmann, 2001; Bushell & Goto, 2011; Sterling & Scott, 2008; Velazquez et al., 2005;).

It can be noted that some research findings are contradictory, and have been compared on different timescales and in different countries. For example, when comparing the few results identified in the research, it can be seen that they provide conflicting evidence; one of them recording '...failing to substantively increase students' understanding of sustainability and linkages between the environment and the economy' (Green, 2013, p.135). Whereas, findings of Kokkarinen and Cotgrave (2013) have shown improvement in students understanding sustainability concepts. The lack of evidence about student perceptions, learning outcomes and SD achievements in HEIs have been emphasised by various authors (Adomβent, et.al. 2014, Godemann, Bebbington, Herzig & Moon, 2014) and the UK Environmental Audit Committee (2005), confirming the lack of statistics on achievements of sustainable development in HEIs (Kagawa, 2007). Collins and Gannon (2014) raised further concerns that out of 600 published articles about sustainable development between 1987 and 2013, only a few have addressed sustainability in HE.

The only large scale research to date in the UK was conducted by the National Union of Students and Higher Education Academy (2013), based on 6757 students. It revealed student interest in learning about SD through the syllabus with integrated sustainability knowledge, and gaining skills for future careers, yet, fewer students were interested in studying sustainability, compared to previous years. Results also showed a contrast between student high confidence levels of having sustainability skills and the actual level of understanding of what sustainability entails (Drayson, Bone, Agombar & Kemp, 2013). The research had explored only key themes and lacked detail, inviting further research to explore student experiences and views. From the research data collected for the study, it can be said that it is in line with the perspective of Lozano, Lozano, Mulder, Huisinigh & Waas (2013), that 'education and research on sustainability in universities is at an early stage in many institutions'. As well as with Ng and Burke (2010), who revealed that changing student attitudes through HE has not been completely effective, with the main changes seen in the 'greening' of campuses, rather than the 'greening' of the curriculum.

Method

The sample for the study consisted of 182 University of Huddersfield undergraduate students, who completed online questionnaires. Overall 198 online survey responses were collected. Out of 198 responses, 16 questionnaires were found to be unusable due to being damaged or incomplete, therefore they were discarded and data from 182 questionnaires were used. In addition, a further 10 students were invited to participate in face-to-face interviews to obtain more in-depth views on the research subject. Hence, non-probability purposive sampling was employed, targeting university students (Given, 2008), who had or had not studied modules related to sustainability, or otherwise taken part in 'greening' activities on campus. The research captured data from full time undergraduate students from different cultures and backgrounds, across different genders and ethnicities, and various levels of working experiences. Secondary data were based on findings from historic and recent academic reports and journals. Moreover, to

gain a broader overview of the study area, additional qualitative data were collected from two 'LinkedInTM' online discussion groups with professionals.

The study was approved and carried out in accordance with the University of Huddersfield rules and policies on Academic Integrity and Ethics (University of Huddersfield, 2011). The participants' rights and anonymity were preserved.

As regards to the required depth and complexity of the research, the interpretivism and positivism philosophies were adopted, employing critical realism as a paradigm; offering a triangulated style (Archer, Bhaskar, & Collier, 2013; Fleetwood, 2001; Mingers, 2001; Scott & Zachariadis, 2013). Critical realism enabled to create detailed knowledge through research (Richards & McEvoy, 2006); '...embracing various methodological approaches from different philosophical positions' (Scott & Zachariadis, 2013, p.856). The online questionnaires were analysed using SPSS. The duration of each of the interviews was 30 minutes and were audio recorded and finally transcribed in full (Hesse-Biber, 2010). They were analysed applying content analysis to look for similar themes, and finally data from both methods were integrated in the stage of data interpretation (Caracelli & Greene, 1993).

Findings and Further Discussion

In this part of the paper, the findings of the research on the subject of sustainability literate graduates and the skills gap in the employment market, along with the issues observed, will be discussed, and interlinked with the ideas presented by other various authors earlier in the paper. Findings will present the data obtained from 182 on-line questionnaires, 10 face-to-face interviews, and two online sustainability discussion groups on 'LinkedInTM' – 'Sustainability Professionals' and 'Green'. The data was acquired from two different discussions; a) the definition of sustainability in less than four lines and b) the future of education for sustainable development. There are various findings in academic literature about the effects of ESD in HE and on graduates, some of which support the research findings, and some that contradict. Due to complexity of the research, the findings are presented under 6 headings, which were used as objectives to guide and structure the research:

- Identifying the level of student knowledge about sustainability.
- Creating an overview whether students have gained sustainability knowledge from HE, and confidence for its practical application.
- Establishing the areas of HE having an impact on student mind-sets towards education for sustainability.
- Determining whether students recognise the necessity of sustainability competencies for future careers.
- Analysing student perception towards being 'key players' for solving global environmental problems.
- Evaluating key factors associated with student interest in sustainability.

Identifying the level of student knowledge about sustainability.

From the evidence gained, students possess some level of awareness about the environmental problems, however, they lack knowledge about

sustainability, and what it entails. As identified earlier in this paper from the United Nations World Summit, SD meant interconnection of the economic, social, and environmental factors (Christie, Miller, Cooke & White, 2013; Quality Assurance Agency & HEA, 2014), with the emphasis on economic and social impact on the environment (Marale, 2012; Stubbs & Cocklin, 2008). This seems in line with the research findings of several professionals from the 'LinkedIn™' discussion group, who agreed that for them sustainability means 'triple bottom line' based on Elkington (1997), where improvement of balance between society, economy and environment is required. Particularly interesting was an answer from the international business owner and director, who expanded his definition by adding: 'everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment, therefore the foremost is the respect for the nature'.

In contrast, the questionnaire results indicated that only 18.7% of students chose a simplified definition of sustainability. Undisputedly, lack of broader understanding of the sustainability concept and how it connects to business, economy, and society is predominant. The Majority of students had mentioned that it involves protecting the environment, for example Student 1 (S1) said that it is about 'not damaging the environment in unnecessary way.' Two students, however, demonstrated very limited understanding, where S10 said that it meant 'to reduce CO2 and plastic.' Most students acknowledged that they did not have any awareness about the Sustainable Development Plan for HEIs, with S2 stating 'Um, I have not heard about that. I think that is a good idea though, something that needs addressing for more people to learn about it.' Additionally, most students acknowledged that they didn't have awareness about the University's 'Green' activities. It was limited to 'I have seen that university plants trees and flowers outside the campus.'(S8). It would seem that the findings of the current research are in agreement with Green (2013, p.135), who comments on the HEIs: 'failing to substantively increase students' understanding of sustainability and linkages between the environment and the economy'. Additionally, 9 out of 10 interviewed students believe that population lacks awareness and knowledge about the environmental problems. Specifically, S2 has pointed out that 'for students and young people more information is needed...to be delivered in a way that would get them to understand why it is important.' The fact is, that in this case, HE has failed to improve undergraduate awareness and skills of sustainability.

Creating an overview whether students have gained sustainability knowledge from HE, and confidence for its practical application.

The study evidences that most of the participants have a positive attitude towards caring about the environment, however, there is a general negative outlook about the level of sustainability knowledge and confidence gained from the HE. Although, the majority of students have studied one or more sustainability related subjects in university and 65.9% of students have had prior environmental awareness, students are lacking the skills and confidence to apply sustainability knowledge in practice in their future careers. The lack of confidence and dissatisfaction is further highlighted in interviews, with most students finding environmental modules impractical. Particularly, when S1

states that 'most of that basic stuff that I already knew through watching TV and different programs.' Additionally, nine out of ten students confirmed an inability to engage with 'green' activities in their future careers, unless it was on a very basic level, 'not on that kind of level that is for a business or something' (S3). These results confirm the 'skills gap' in the undergraduate employment market described by CIPD Annual Survey Report of 2012, recognising difficulties to recruit graduates with the right skills of sustainable leadership and management in the UK (Department for Business Innovation & Skills [BIS], 2012).

Establishing the areas of HE having an impact on student mind-sets towards education for sustainability.

Very little was found in the literature on the question of the HE factors influencing student mindsets positively or negatively towards education for sustainability. The surprising finding is that there are several negative influences from HE affecting students' learning experiences, however, it is evident that in general, students have a positive outlook towards education for sustainability. The participants acknowledged sustainability skills to be important for future decision makers and leaders. First, focusing on the negative areas of HE highlighted by students, it is evident from the research findings that only 26% of participants are satisfied with the amount of education for sustainability offered on their degree course, with most undergraduates exhibiting low satisfaction levels. S1 points out one of the factors: 'I don't know how interesting I find it, 'and S3 emphasises that 'it could have offered more information of how my business in the future will affect the environment'. Additionally S6 suggests 'I did not benefit at all, mainly because I didn't pick modules teaching sustainability, but the topic was not used in a wider context for all subjects, which could have been done.' These two viewpoints are showing other two negative educational factors, such as lack of practical application and lack on inter-connection with other course modules. All of the interviewees however, agree that the University could have more positive outcomes in raising awareness by engaging students with its 'green' activities. It seems that this is supported by Ng and Burke (2010), who have revealed that changing student attitudes through HE has not been completely effective.

Secondly, an unanticipated finding from the current study is that generally, students have a positive outlook towards education for sustainability, especially in the education of future decision makers and leaders. This is supported by the view of Bushell and Goto (2011), Cortese (2003) and Sibbel (2009), acknowledging that it has become increasingly difficult to ignore the role education can play in changing mindsets towards sustainability and responsibility, to achieve effects on future decision makers, leaders, and the overall society. This is supported by 74.8% of participants, agreeing that education is the best way of raising environmental literacy and awareness. It seems to be in tune with the results from 'LinkedInTM', with all professionals confirming that sustainability is a goal that could be achieved by corporate social responsibility of organisations, change of culture and a circular economy. This is further reinforced from the interviews, with students confirming that they would like to have more involvement with sustainability

activities in the university, and S3 comments that 'definitely, it would be a good idea to let more students know and increase awareness and I believe students should be part of it'. All of the participants agree that sustainability knowledge integrated with all modules would be much more interesting, beneficial, and practical.

Students explain the necessity to understand how the knowledge can be applied to a real business. S8 discusses as a 'very good idea, umm, I feel that it would let all students to have a better understanding about sustainability and use it in practice'. Furthermore, the findings from 'LinkedIn™' confirm that there is a common agreement between professionals that any type of education, including formal and in-formal is crucial for sustainable development. In particular, one agrees with the Vice President of an International organization, who comments 'Green initiatives, even sustainable development will not be 'sustainable', if we don't go through a cultural change, that is driven and built by education.' A graduate of sustainable IT and a manager of an organisation emphasises that 'MBA in sustainable business and IT with a many years of experience in early education research has reinforced the knowledge that it all begins with education.' Therefore it can be said that despite several negative areas of education for sustainability identified, HE has not had a negative impact on the student mindsets towards education for sustainability. In the view of the evidence gained from the study, this is the reason for one's belief that changes in the HE syllabuses incorporating SD are required.

Determining whether students recognise the necessity of sustainability competencies for future careers.

So far, it is evident that most students recognise the importance of having sustainability competencies, driven not merely by career needs. Despite the negative feelings, the interviewees in this study did demonstrate a strong interest in sustainability skills, however, only under the conditions of sustainability knowledge being integrated into the other modules. 92.9% of the participants have an interest to study aspects of sustainability as a part of their degree course in various proportions, between 25% and 80%, however, only 9.9% of students would choose an additional sustainability module, finding it unusable for their careers. S6 chose to go for '80% especially if it forms a part of all modules, ' and S9 went for 75% 'because there is a lot to be learned.'. This is in tune with the findings of Drayson, Bone, Agombar and Kemp (2013) who found that students had interest to learn about SD through syllabus with integrated sustainability, and possess skills for future careers.

Most of the research participants have an ambition to gain leader roles after graduating university, such as management, investment banker, finance roles, CEO and business owners. This is somewhat surprising, but it may be due to negative learning factors from environmental modules, that only 36.8% of the respondents have awareness that the competitive employment market requires sustainability skills. A general lack of knowledge about undergraduate employers requiring sustainability skills is present among students. For example, S1 comments 'if I knew it was an issue to get a job, I would definitely consider learning more about it, ... but I don't think it is going

to affect me so much as a business undergraduate.' Additionally, it is evident that student interest to study sustainability is driven by additional factors, therefore the findings of the current study only partially support the previous research of Bartels and Parker (2011) and Fisher and Bonn (2011), that growing demand from organizations for sustainability-driven managers and professionals create demand for the relevant knowledge from HEIs.

Analysing student perception towards being 'key players' for solving global environmental problems.

The majority of the participants are found to care about the solution of global environmental problems and take practicable steps to help, but there is more uncertainty and less desire to engage with environmental problem solving in future careers. From the research of UNGC and Accenture (2010), it can be seen that changed mindsets towards sustainability on a personal level are perceived as very important for changing demands, lifestyle and culture, and for future leaders to drive transformation at a corporate level. This is only partially supported by the research findings with 77% of the respondents agreeing that they care about the environment, but mixed and uncertain responses are provided by interviewees regarding willingness to engage with 'green' activities in the future careers. From the findings, links can be drawn between lack of sustainability knowledge and low confidence of its practical application amongst students, and their hesitance to take part with SD activities in the future employment, as well as the 'skills gap' in the job market.

Evaluating key factors associated with student interest in sustainability.

The lack of academic research about student perceptions (Adomβent, et.al. 2014, Godemann, Bebbington, Herzig & Moon, 2014), experiences and views of learning sustainability in HE have been emphasised (Drayson, Bone, Agombar & Kemp, 2013). This study has found that HE has increased interest for sustainability for only 14% of the participants. This is in line with the evidence from the interviews, with most of the students providing different reasons for the interest in sustainability. As S2 recalls '6th form in school...which I think I probably got most of my knowledge from in that area', and similarly S5 remembers 'I have studied in school to a certain extent...and it has got my interest in the topic area.' Other participants mention family, friends, news and internet, which had created awareness about the global warming and other environmental issues. For example, S2 points out that 'it is lately worrying, thinking that so many problems and disasters could have been prevented if people took it seriously and knew more about it.' It seems possible that awareness of environmental issues might be one of the major drivers behind the student interest in sustainability. Further evidence of the factors behind student interest in SD is revealed by a majority of students, explaining their interest in building environmentally friendly businesses in the future. Their interest is driven by large developing market in the recycling industry, rising competition for sustainable products, pressure from environmental policies, and increasing customer demands. As S8 notes 'It is very good and becoming more popular and customers want it more as well.' Also S6 emphasizes that 'these are approaches that businesses are going towards in the 21st century.' It can thus be suggested that there are various

factors of interest in education for sustainability, with HE being an insignificant one.

The facts and evidence established in this paper suggest that undergraduates of the University of Huddersfield are sustainability illiterate. The style of teaching offered to students with separate environmental modules, does not stimulate any interest in them to learn more about the subject, nor provide with so much needed sustainability skills for the future career. The lack of skills therefore limits undergraduate career development opportunities. It seems, these facts link to the lack of sustainability - educated professionals and leaders in the UK and globally, which could possibly be a missing piece of a 'puzzle' to more effectively achieving sustainable development goals. Management of HEIs should consider student interest in learning about SD in a practicable and interconnected way for the benefit of the students, UK economy, and the future generations.

Conclusion

The purpose of the paper is not to criticise HEIs, but rather seek to highlight the ways in which HE could be improved to have more satisfied students; effectively preparing them to become sustainability-driven future decision makers, professionals, and leaders, capable of delivering changes in the employment market, society, and economy. It can be suggested that the lack of graduate sustainability skills, linked to a surplus of sustainability literate professionals and leaders, 'possibly could be a missing piece of a 'puzzle' in the resolution of the Global environmental problems and achieve sustainable development goals. The evidence from the research proposes that in general, students lack understanding about sustainability, and confidence levels of knowledge gained from environmental subjects in the university, are low. The results of this investigation also highlight various negative factors of HE that students have experienced. However, overall participants feel positive towards learning more about sustainability, if the elements of sustainability are incorporated in all modules, to better understand the concept and connections of the environment, society and economy. Various driving factors behind the student interest in sustainability are identified. Overall, it can be said that HE has had a minor effect on undergraduates to become sustainability-driven future decision makers, professionals, and leaders, who could fill the 'skills gap' in the employment market. One would suggest that student interests should be considered, when designing the syllabus, due to strong interest to learn and engage with sustainability while in the University of Huddersfield. It is important for HEIs to integrate sustainability in all modules, due to growing demand from businesses and government. Particularly, the power of education in changing student mindsets, is acknowledged throughout the research. Additionally, HEIs should engage students with the 'green' campus activities, to develop practical skills in sustainable development. More advanced, integrated teaching of sustainability should be contemplated, which would enable students to become environmentally aware and responsible professionals and be more competitive in the future employment market. Some of the graduates might go on to additional education and become scholars, with the 'skills baggage' and abilities to share the knowledge through new research, publications, and teaching. Management of HEIs,

government and educational bodies should recognise the importance of developing the 'graduates of tomorrow' because it is in their hands to shape the future.

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