
A gap analysis of student employability profiles, employer engagement and work-placements

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Abstract

It has become increasingly apparent that higher education (HE) plays a fundamental role in making a country more competitive by promoting the knowledge-based aspects of an economy. By supporting lifelong learning, Universities and colleges provide employers and employees with the skills and qualities they need for economic productivity and growth, but this can only happen effectively when the HE sector works in partnership with employers.

This paper investigates and assesses the value of student–employer engagement in the discipline of environmental sciences (ES), focussing on three key themes:

- the skills, attributes and knowledge developed by environmental science students during their studies, compared to the expectations of employers
- the enhancement of student employability through work-placements
- the relationship between Higher Education Institutions and employers.

Through addressing the identified gaps in skills, attributes, knowledge and expectations, it is clear that employer engagement activities and work placements can be a valuable means of improving the employability profiles of students whilst ensuring the professional relevance of environmental science degree courses. Although the study focuses on environmental sciences, it is anticipated the findings will enable the wider academic community to respond to the changing needs and expectations of its students and employers.

Introduction

One of the main recommendations of the Leitch Report (2006) was to improve engagement between employers and Higher Education Institutions (HEIs). This study aimed to assess the value of this engagement and establish if any gaps exist in perceived and actual benefits for both parties, via an investigation of the relationship between employers and HEIs in the field of environmental science (ES).

An important outcome of increased employer engagement is the enhanced employability profile of graduates (HEFCE 2006). Employability has been an important element of the Higher Education (HE) agenda for some years and it is generally accepted it will continue to be an important feature (Yorke & Knight, 2004). For the purposes of this research, we adopted the definition of employability as suggested by Yorke (2004). (See Box 1.)

Box 1. Definition of Employability:

Employability is taken as a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy

(Yorke 2004, p. 7)

The Increasing numbers of young people attending university, driven by government policies recognising the links to the growth of the economy (Glover *et al*, 2002), has resulted in many students struggling to find appropriate employment upon graduation (Gedye *et al*, 2004). A degree qualification is no longer a guarantee of a job, and this is reflected in the attitudes of many students who report that they chose to study at university, not solely for academic advancement, but to make them more employable (Glover *et al*, 2002; Gedye *et al.*, 2004).

Employer engagement is a vital part of any employability strategy as it can help embed employability into curricula, provide work-placements for students, and enhance the employability profile of graduates (HEFCE 2006). The increased focus on employability and employer engagement has led to many HEIs introducing work-placements into their degree programmes as part of their recognition of the need to forge closer ties with industry (Cade, 2008).

Methodology

Undergraduate and taught postgraduate students studying ES at the University of Southampton were selected as the student sample group. A self-administered questionnaire with a cash prize-draw incentive for completion was distributed to all students in each year group of the BSc, Master of Environmental Sciences (four year undergraduate programme), and MSc programmes. A total of sixty students returned completed questionnaires; a response rate of 34%. Focus groups involving the different year groups were organised to take place post-data analysis to allow greater exploration of key points. A total of twenty students representing each year group participated in the focus groups.

Questionnaires were sent to employers in the ES field; the employer groups were selected to be broadly representative of the sector and were divided into:

- large companies
- small and medium-sized enterprises (SMEs)
- Public bodies.

Questionnaires were distributed to two hundred employers, with a return rate of 16%. A post-data analysis focus group was also held with representatives from seven ES employers in the South of England (three large companies, three SMEs, one public body).

Results & discussion

Student skills and employer expectations

Employers were asked to indicate the four skills they most valued and whether they found these skills in the majority of their graduate recruits. The most valued skills selected by over half of the respondents were: research skills; ability to work in teams; and production of professional reports. Basic IT skills, numeracy and the ability to deliver professional presentations were also found to be important.

Employer dissatisfaction with general employability skills of graduates across HE has been highlighted by Gedye & Chalkley (2006) and Robins & Gowar (2003). This study has reinforced these findings; the most striking verdict was that almost 40% of employers reported dissatisfaction with their graduate recruits with respect to production of professional reports. This finding was explored further in the employer focus group, with all attendees stating that the quality of writing by graduates is often extremely poor and can be an embarrassment to the organisation. Investigation of student responses demonstrated that this skill was also a concern from their perspective, as they

reported uncharacteristically low confidence in this skill being gained through their studies.

Students stated strong confidence that the majority of general employability skills were being gained through their studies. The almost complete student satisfaction with delivery of professional presentations is not consistent with the lower employer confidence in graduate skills in this area. Low student confidence was expressed in basic financial skills, laboratory skills, and production of professional reports, although there was little or no interest in the former two skills.

Student attributes and employer expectations

Employers were asked to indicate the four personal attributes they most valued and whether they found these attributes in the majority of their graduate recruits. The most valued attributes selected by over half of the respondents were: good interpersonal skills; having a 'can do' attitude; flexibility; and good time management.

Whilst the majority of employers felt that graduates have adequate interpersonal skills, 'can do' attitude and flexibility, 41% of respondents who valued time management felt that graduates lack this attribute. However, 85% of students expressed confidence in possessing this attribute, which suggests that student perceptions of adequate time management differ from what is expected of them in the work place. Some employers elaborated on this point in the focus group - what they felt was missing from graduates was the understanding that 'time is money', and knowing how much time was appropriate to spend on each part of their job.

The ability to bring in new business was identified as lacking in graduates by 75% of employers who valued this attribute. Other concerns raised by employers in comments on questionnaires and through the focus group were: general business sense; social skills; graduates having unrealistic expectations of what work they will do and what they will be paid; and an increasing lack in motivation and drive in graduate recruits. There is a limit to how well HE institutions can develop or encourage these attributes; it is not possible to 'fast-forward' students to a higher level of maturity and, in the words of one of the respondents in a student focus group, 'there are some attributes which can only be acquired in the workplace'. Strong student confidence was expressed in working well under pressure and problem solving, but these were further attributes which employers were not wholly satisfied with.

Student knowledge and employer experience

Employers were asked whether they felt their graduate recruits had the appropriate level of knowledge in key ES subject areas. Over 60% of employers felt that graduates did not have the required level of knowledge in environmental legislation, water resource management, environmental health, environmental management systems and 'other' key areas (including geographic information systems). These are all subjects covered by the majority of ES degree programmes, so it is worrying to receive these concerns. Discussions in the employer focus group centred on good theoretical knowledge, but a lack of applied understanding in key subject areas; this has also been reported by Thomas (2008) with respect to key skills in geoscientists. The apparent lack of applied skills and understanding requires further investigation in order to ensure employer satisfaction with graduate recruits in the workplace. On a positive note, there was high employer satisfaction for graduate knowledge in contaminated land, general ES, atmospheric chemistry, climate change, and geology.

HEFCE (2006) and Cade (2008) feel there is a lack of a common language between employers and HEIs leading to inconsistencies between student learning outcomes and the requirements of employers. Gedye & Chalkley (2006) state the skills in the curriculum often tend to be those valued by academics rather than employers. This lack of a consistent dialogue and mismatched values should be addressed to overcome the gaps in key skills, attributes and knowledge identified in this paper.

The enhancement of student employability through work-placements

Duration and Timing

The majority of employers and 50% of students reported a preference for placements of 1-2 months. Very few employers were willing to take on students for placements lasting less than 1 month. Large companies were the most flexible in the length of placements they will offer, but 50% prefer placements lasting from 6 months to over a year. This has implications for HEI departments that wish to introduce a year-long work-placement into their degree programmes, as large companies are likely to be the most willing to participate. The majority of organisations and students preferred to have placements during the months of June to September, peaking in July. Employer and student preferences in the duration and timing of work-placements coincide so are not an obstacle to employer engagement in this area.

Benefits of work-placements

The most popular response for employers engaging with students through work-placements is they are a "low risk way of trialling potential new recruits". Encouragingly, the majority of employers identified with this view, and none thought that "the quality of work produced by students is unprofessional and of little use to the company". Other benefits stated by employers through questionnaire comments and the focus group were: the quality of research work produced by the student; benefiting from recent theories and thinking; having a "fresh pair of eyes" in the organisation; and "creating a learning atmosphere" within the organisation.

Of the students who planned to do a work-placement during their studies, 67% intended to do so to gain employability skills and eight per cent in the hope that a full-time job will be offered. Other benefits that students stated through questionnaire comments and the focus group were: having the opportunity to apply theoretical knowledge to practical situations; getting a clearer idea of what career path they may take; and gaining a greater understanding of how the professional work-place operates.

The relationship between Higher Education Institutions and employers

Obstacles to work-placement Engagement

A 2005 study by the University Vocational Awards Council (UVAC) stated there is limited evidence that employers seek to engage with Universities. This study found that although clear benefits were perceived by both employers and students, 56% of employers did not yet offer collaborative projects to university students, and 45% of students either did not plan to do a work-placement during their studies, or were undecided. Many employers were concerned about the quality of work that could be produced during a short work placement:

It is difficult to get them up to speed and very involved with projects that have been ongoing for some time. It is generally not possible in a short period of time (i.e., a summer placement).

This is an important consideration when HEIs attempt to engage employers through work-placements.

A notable obstacle to work-placements was employers not having enough time to properly supervise students; this was particularly evident with SMEs. This issue can be linked to the desire of employers to recruit students with a 'can do attitude' and their ability to work without close

supervision, both with respect to permanent recruitment and to work placements. One employer stated the key to a successful placement lies in the student selection (Box 2).

There is a responsibility for HEIs to ensure that students are provided with opportunities to experience placements that reflect their skills, attributes and knowledge. However, there is also

Box 2. Key to a successful placement

The key is in the selection of the placement student, and then making sure they are placed in the most appropriate area of the company. There is a risk that managing a placement can be very time intensive with little or no benefit if the wrong person is picked.

(Employer Focus Group attendee)

a responsibility for employers to place students in the most appropriate area of the company, if the placement is to be of mutual benefit. If this process is not handled correctly, employers may well be discouraged from further engaging with HEIs. It should be noted this has considerable implications with respect to HEI staff time, in addition to presuming a good understanding of each individual student when arranging placements.

A stated obstacle for 36% of employers and 33% of students was a lack of knowledge about who to approach to arrange a work-placement. This obstacle can be addressed by HEIs through better communication of key contacts, enhanced employer engagement and ensuring that students are given appropriate support. Routes to overcome these obstacles and deliver the stated benefits for employers and students are suggested in Box 3.

Box 3. Recommendations to overcome work-placement obstacles

- *Placements should be for an appropriate length of time.*
There is demand from both students and employers for opportunities to undertake longer placements. HEIs should consider making space for extended placements in degree programmes, and emphasising to employers the added benefits they receive in higher quality work, completed projects, and less time supervising the student as they become more settled.
- *Students should be appropriately placed in the correct organisation and department.* Inappropriate placements do not benefit either party, and could damage a student's confidence, discourage employers from engaging further, and could also damage an institution's reputation within industry.
- *HEIs need to increase employer engagement.*
This will help ensure employers know who to approach in the institution to arrange a work-placement, and will help to provide students with the correct support in arranging the placement. A number of employers and students were shown to wish to organise a work-placement, but neither party knew how to arrange one. HEIs need to fill this gap.
- *HEIs can provide clearer routes to known paid placement opportunities, and employers can provide a small salary to students undertaking work placements.*
This will help to help remove the financial obstacle from students, especially if the placement is for a longer period.

Conclusion

It is clear that both employers and HEIs have work to do. HEIs need to address the concerns of employers as much as possible but some of the more unrealistic demands of employers need to be managed; HEIs cannot fast forward maturity or provide business sense to young people who have spent the majority of their young lives in education. Work-placements can be an effective means of developing business sense in graduates, whilst offering employers a low risk route for potential recruitment. However, both employers and HEIs need to establish effective routes of communication to facilitate this process.

This research has assessed student employability profiles through an evaluation of key skills, attributes and knowledge. The most valued skills for employers were: research skills; ability to work in teams; and production of professional reports. Both employers and students expressed dissatisfaction with the ability to produce professional reports. The most valued attributes for employers were: good interpersonal skills; having a 'can do' attitude; flexibility; and good time management. Although employers expressed dissatisfaction with time management, students suggested satisfaction with this attribute, highlighting a difference in perceived requirements. Employers also expressed concerns regarding general business sense, an attribute that can only be fully addressed in the workplace, possibly through student work-placements. The level of knowledge in key Environmental Science subjects was questioned by many employers, but the main concern centred on a lack of applied skills and understanding.

The lack of a consistent dialogue and mismatched values between employers and HEIs can be held at least partly responsible for the gaps found in student employability profiles. Improved communication through enhanced employer engagement can help to clarify the expectations of employers and close these identified gaps. There is a need for further research and resources from bodies such as the Higher Education Funding Council for England and the Higher Education Academy to establish the most effective methods of enhancing employer engagement and to bridge these gaps.

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