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# Employer engagement in the Earth and environmental sciences

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## Abstract

This article reports on the main findings of a small-scale scoping exercise into employer engagement in the Earth and Environmental Sciences (EES). The research examined the understandings, practices, future plans and barriers to employer engagement of individuals and departments. There appears to be mixed understandings of the term 'employer engagement', with few respondents offering descriptions that include workforce development. Most departments valued their interactions with employers. There was a sense that this was an area of growing importance. However, staff indicated the need for greater support and guidance to help them develop these new relationships. Some differences in employer relations were noted, with Earth science having a more established tradition of employer engagement and environmental science appearing to be in a phase of development and innovation.

## Introduction

Over the last five years or so, enhancing the employability of students has been high on the list of teaching and learning developments in higher education. Now the employability focus is moving on. Due, in no small part, to the ramifications of the Leitch Report, employer engagement is the new face of employability. But what is 'employer engagement' and why should it be important to us?

In December 2006, Lord Leitch published his government commissioned 'Leitch Review of Skills: Prosperity for all in the global economy - world class skills'. The report sets out the economic case for the UK to up-skill its workforce to face the competitive challenges of the global economy. Leitch talks about the need to increase adult skills at all levels and about getting more employer involvement and investment in workforce development. Of particular relevance to those in HE is the recommendation (p5) that states the need to:

*...increase employer investment in Level 3 and 4 qualifications in the workplace. Extend Train to Gain to higher levels. Dramatically increase Apprenticeship volumes. Improve engagement between employers and universities. Increase*

*co-funded workplace degrees. Increase focus on Level 5 and above skills.*

The government has recently published the consultation document 'Higher Education at Work - High Skills: High Value' (April 2008). A response to the challenges of Leitch, this report aims to consult employers, learners and higher education providers on what more can be done to equip the workforce with the skills required for an innovative and competitive economy.

In addition to these government drivers, new workforce development provision may also emerge in response to falling 'traditional student' numbers. According to research for Universities UK (Brown *et al*, 2008) current demographic trends mean that there will be 70,000 fewer students by 2020. For some departments and institutions, survival will require them to diversify their provision by reaching out to employers and their employees. Similarly, innovation in provision from universities may be stimulated through competition to provide HE from the private sector.

With employer engagement set to become a more significant aspect of our work, it is useful to establish an understanding of where our EES disciplines are in their dealings with employers. In terms of context, although not overtly vocational in content (in the way that subjects such as medicine are) the EES do have an applied focus; Earth science arguably more so than environmental science. Some elements of EES teaching have clear and focused employer relationships, for example, with the Oil and Gas industries. Others have diffuse, varied and less-clear links, e.g. environmental auditing (which encompasses a multitude of business types). The landscape of employer relations in the EES is therefore likely to be complex and consequently, employer engagement will probably be easier to initiate and sustain for some aspects of the disciplines than for others.

## Methods

This 'small and rapid' scoping exercise was conducted as a series of telephone interviews with colleagues from 10 Earth science and 10

environmental science providers in UK higher education institutions, between 28 May and 9 June 2008. Due to the short time-scale of the exercise (imposed as a condition of funding) the departments were selected as 'convenience' samples, to ensure the rapid collection of data from a range of different types of institutions. Although participating on an individual basis, all the interviewees, due to their seniority or specific departmental role, were able to offer a department-wide viewpoint. Telephone interviews were conducted with the individuals, structured around a common set of ten questions.

It should be noted that, as a result of the significant time constraints placed on this research (a fortnight between receiving funding confirmation and the deadline to return findings) a decision was made to focus attention on the EES only. The GEES SC intends to conduct a similar survey for geography shortly, in order to complete the picture for the GEES disciplines as a whole.

### 'Employer engagement' understandings

'Employer engagement' is a term that is not yet widely used, and is one that is only partially understood. Eight respondents reported that they were not familiar with the term or that it was new and not commonly applied. When asked to express what they thought employer engagement involved,

comments related mostly to the more conventional aspects of employability including: communications with employers to inform the curriculum; placements; aspects of graduate employability/careers guidance; and involving employers in teaching. All of these responses recognise examples of employer engagement, however, they do not indicate progressive understandings of employer engagement in relation to workforce development and knowledge transfer.

Despite these partial understandings, respondents overwhelmingly expressed the view that employer engagement was important (even critical) to their department and/or institution (16/20 responses).

*'Absolutely, it's a key factor within the whole institution.'*

Reasons cited included: the importance that teaching (and research) is informed by, and relevant to employers; responsibility for producing employable graduates; and the value of subject relevance in motivating students and assisting in recruitment (subject image).

*'It's vitally important ... It helps them to understand why studying geology is important and gives them ideas about what they might do when they leave.'*

*'It's our primary responsibility to produce employable graduates.'*

Type of Employer Engagement	Earth Science	Environmental Science
Talks from industry professionals & co-teaching on modules	8	5
Employer consultation (advisory boards/validation panels etc)	5	5
Student-employer project collaboration/co-supervision	4	4
Placements	5	3
Make use of alumni (course advice, careers advice)	4	3
Employer funding / sponsorships / scholarships for students	4	2
Make use of geological career events	3	2
Involve employers with careers education delivery	2	1
Employment of staff with industry experience	1	1
Informal engagement through network of contacts	1	0
Employer funding for academic /research positions	1	0
Employer funding for equipment	1	0
Direct employer recruitment of graduates	1	0
External examiners from industry	1	0
Employers involved in assessment	0	1
Totals	41	27

Table 1: Types of employer engagement reported by Earth and Environmental Science academics.

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For the small number who did not feel that it was important at present, reasons cited included their institution as hindering employer engagement and traditional, research-focused views dominating amongst colleagues.

## Undergraduate and postgraduate delivery

The most popular forms of employer engagement for undergraduate and postgraduate delivery are talks from industry professionals and co-teaching on modules and employer consultation (advisory boards/validation panels etc).

There was a wider spectrum of employer engagement involvement, from departments in which activities were deeply embedded in the culture (and who, therefore, involve employers in multiple ways), compared with those with a limited tradition. It was apparent from the examples provided that a distinction is not always made between employer engagement and employability. For example, it was common for respondents to cite the development of employment-relevant skills and delivering an applied curriculum, neither of which necessarily entail direct employer involvement. The main difference evident between Earth and Environmental Sciences is the greater reported quantity of employer engagement activities for Earth Science (See Table 1.)

## Workforce development and consultancy activities

We have already seen that, when asked about their understandings of employer engagement, respondents largely focused on its relation to undergraduate and postgraduate provision. However, in describing the forms of employer engagement of which they have experience, a more diverse range of practice is evident. CPD provision, Knowledge Transfer Partnerships (KTP) and consultancy were much more prevalent in the Earth Sciences than the Environmental Sciences. Only one Earth science provider, but five environmental science providers reported no activities in these areas.

In the Earth and Environmental Sciences, CPD provision is delivered in two key forms – short courses and flexible Masters. At some institutions CPD short-courses are offered through the department, whilst a central unit to manage and market courses is provided in others. CPD activities in the Earth and Environmental Sciences can be divided into those that are industry-led and those that have been developed 'in search of a market'.

The latter, as might be expected, appear to be less successful.

*'CPD is entirely industrially driven and tends to be focused towards people with sub-degree qualifications or those with no background in the industry.'*

*'CPD is run for industry on a 'needs basis' ... We realise we need to do more CPD courses and generate income.'*

*'All 2<sup>nd</sup> semester M level courses have been packaged into 3 weeks to make them available externally, but there hasn't been much take up. This is probably a reflection of a lack of marketing more than anything else.'*

There was a degree of uncertainty voiced by some about the market for CPD courses and the financial returns they may bring. Some had experience of CPD courses being unsuccessful and were therefore wary of this type of activity.

*'CPD is not really seen as a priority – otherwise more resources would have been put in. There may be more top-down pressure for this in the future. The department has had a go at CPD provision... but this was not sustained.'*

CPD short-course provision ranged in length from day courses through to 10 week programmes, typically delivered within normal working hours and with some examples of evening and weekend provision. Most was hosted by the HEI but there were examples of academic staff providing in-house CPD for large companies, including overseas businesses.

A number of people noted that they were offering CPD opportunities through their Masters provision. This required Masters to be delivered flexibly to make it suitable for employees to access. The two main ways that flexibility was achieved, was by re-packaging Masters modules into short, fat blocks and by offering extensive virtual learning.

*'Some of our MSc modules are offered as one-off courses; e.g. part of the Engineering Geology MSc is done via distance-learning so it's available for CPD. The School discussed whether to re-organise provision into 'short, fat' modules but the interaction with the undergraduate programme (e.g. 4<sup>th</sup> year) makes it difficult.'*

For a small number of departments, CPD is a core



and successful activity that sits alongside other provision.

*'Offered in response to demand from employers – being out there on the CPD circuit you can see what's coming next. You are also part of a feedback loop where employers find out about what you are doing and invite you in to consultancy and research opportunities. It's a self-financing programme and a good source of employer networking opportunities. Some of the programmes are certificated and offer professional credits.'*

*'We offer a highly flexible suite of virtual Masters' courses which currently has registered 280 part-time students in employment. These students are scattered all over the world.'*

There were also a limited number of departments who mentioned their consultancy services. The wider benefits that this type of activity can bring

are illustrated through the following quote:

*'I run a consultancy company, which undertakes a variety of projects including flood risk assessment, borehole monitoring, ecological surveys, site investigations etc. Students are involved where possible either through simply observing the operations or through paid work. Consultancy acts as a type of staff development: learning about new topics, undertaking the work and in providing case studies for use in classes.'*

Comments from respondents indicate growth in activities facilitated through KTPs:

*'Our department has an advisory board who are a group of invited geoscientists employed in the petroleum, minerals and environmental sectors who advise on matters concerning the strategic development of the department. This is important with the increasing emphasis being given to 'Knowledge Transfer' activities between academia and industry.'*

### **Past traditions: future plans**

Responses suggested that, for the most part, there is a well-established and deep-rooted culture of employer engagement in the Earth Sciences. Few Earth Science respondents identified new employer engagement activities. Comments from Environmental Science respondents indicate less of a tradition in engaging with employers, but much more new activity taking place in this area.

*'We have generated new units because of employer involvement.'*

*'We are working more with alumni so we are developing a formal alumni database in future.'*

*'Flexible learning is a new area.'*

*'Collaboration with employers as research partners is growing now that it's a stipulation of grant bodies.'*

*'We are good at identifying market opportunities and providing courses to fit employer need e.g. we have worked with the Environment Agency to ...develop a foundation degree and then, over time, in response to demand developed BA and Masters.'*

The Environmental Science community appears to be very active, at present, in planning future

employer engagement activities. Respondents noted a wider range of plans than the Earth sciences. This may reflect the fact that, because the Earth sciences are already quite involved with employers, there is less scope for new activities. Future activities planned include: Masters programmes, foundation degrees, short-courses/CPD, placements/WBL, consultancy, research collaboration/KTPs, employer sponsorship, better alumni use, employer fora, involving employers with assessment, expanding virtual learning (flexible provision) and web development (to better advertise services to employers).

Comments from respondents help to illustrate the thought going into future diversified provision:

*'We're exploring developing distance Foundation Degrees – so need to speak to employers to find out what they need from us (and what they will pay!).'*

*'We have an MSc in the pipeline for people already in industry ... This would be run through a programme of short, fat modules of about a week long so that people in the workplace can take time off to do them.'*

*'We are looking at developing more courses in the renewable energy field. These courses have premium fees for the CPD market.'*

*'The university is piloting staff placements ... opportunities for staff to develop their skills set through working alongside a company.'*

*'The future is in virtual learning. I've been an external examiner and those environmental science departments struggling to recruit need to adapt to this market.'*

*'Need to improve our presence on the web – so employers can see what you are offering and know how to find you.'*

## Barriers

For a minority of departments, for whom employer engagement is part of the furniture very few barriers are perceived.

*'There are no barriers. It is part of the culture of the department and the institution. There is a very happy relationship with employers.'*

However, for most, a number of barriers were noted (See Figure 1).

*'The biggest barrier is time; some sort of incentive needs to be offered, not necessarily financial, but e.g. reduced teaching hours'*

*'We would develop something if we thought there was a significant market. If we come under pressure from the university or if, say, undergraduate student numbers decline we may resurrect the idea.'*

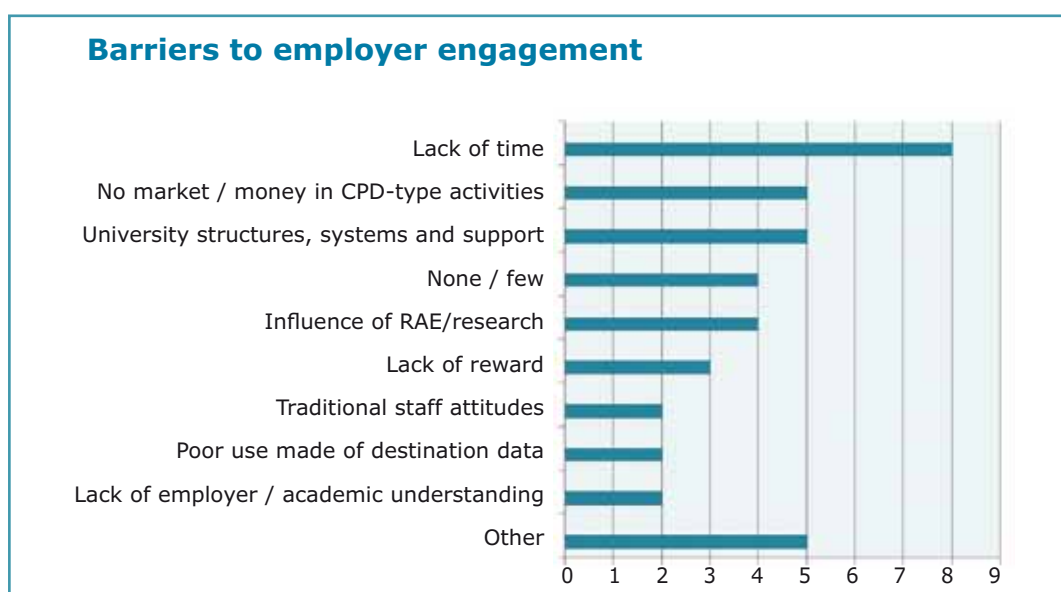


Figure 1: Barriers to employer engagement. The 'other' category includes a lack of employer contacts; too small-scale (CPD-type activities); lack of employer reliability; lack of resources; poor use made of alumni.

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## Academic's views on Employer Engagement

"It helps them to understand why studying geology is important and gives them ideas about what they might do when they leave"

We had to work hard to establish a relationship that is working with employers not for them. We don't want our research dictated by them or to do consultancy for them."

"The university is seriously engaged and there is a strong top-down initiative, Schools / departments are engaged with the employability agenda (partly for recruitment reasons) but employer engagement in Leitch terms is not yet on the radar."

"It's our primary responsibility to produce employable graduates."

"In response to employer feedback we have integrated into courses team building skills, presentation and clear writing skills and the ability to synthesise information and present as short piece of work."

The Environment area has been in EE longer than most and sees the need to enhance the relevance of the curriculum to a range of employers."

"The institution may become more supportive of EE but in the past it has hindered activities with employers."

"The Earth Sciences community needs to do more to promote the subject; the message about employment prospects is not getting across to 'A' level students."

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## A scoping survey by the GEES Subject Centre of employer engagement in the Earth and environmental sciences, June 2008

"Professional bodies are also important to us. Courses are accredited by IEMA and CIWEM and need to meet their benchmarks for validation."

"A large part of the degree is geared towards employment opportunities. In a survey of students' reasons for applying, employment prospects were in the top 2."

"More recently, staff in the department have got involved in knowledge transfer partnerships, for instance in the water industry - we are looking for more opportunities to do this."

"It is very important for me but not many colleagues are sympathetic - some see EE as unnecessary. There is a desire to keep things to a pure research perspective."

"It is a responsibility we have to our students to make them as employable as possible."

"CPD is a high priority for the university - the new VC sees it as very important."

"It is not particularly important at the moment but I suspect ... It is something that we are going to have to address."

"It's important to make the product (degree programme\_ relevant to all parties not just students - It must be fit for purpose."

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*'An external barrier is in the way universities work. There isn't really a system for running short courses – everything's geared up to year-long courses.'*

*'Regarding CPD provision, RAE and research is the priority. Providing CPD is only worth doing if it brings in adequate income – a profit-maker to raise resources to support other activities.'*

*'Don't have the right network contacts in professional areas. Tendency for academics just to talk to other academics.'*

*'We scoped a market-led, vocational MSc programme. We had input from industry and employers ... There was lots of interest but it's not running because there is no champion to take it forward.'*

## Conclusions

The survey responses imply that currently staff are unlikely to label their activities as 'employer engagement'. For most, the term is used synonymously with that of 'employability', rather than in relation to the workforce development agenda as promoted by Leitch. The majority of employer engagement taking place appears to be focused around traditional modes of undergraduate and postgraduate provision. This small-scale study suggests that the Earth and Environmental Science community is not adequately conversant with the Leitch agenda and its workforce development implications, and is, therefore, not presently well-positioned to respond and innovate.

There was support for, and promotion of, the employer engagement agenda at an institutional and/or departmental level noted by a significant number of interviewees. However, in terms of current practice, there was a wide spectrum of employer engagement identified from departments in which it is already deeply embedded in the culture (and who therefore involve employers in multiple ways). As might be expected, and probably as a result of the more vocational nature of the subject, the Earth Sciences are currently more actively engaging with employers than the Environmental Sciences. However, plans within the Environmental Sciences for future employer engagement are currently more diverse – the Environmental Science community is clearly beginning to respond to this agenda.

Comments indicate that there are a variety of drivers for the instigation and continuation of employer relations, including alumni relationships,

employer recruitment needs, and employer needs with respect to skills and knowledge. In terms of CPD specifically, whilst much provision in the sector is industry-led, some appears more speculative and, as a consequence, is less successful.

A lack of time was reported as the single most important barrier to greater involvement, identified by academic staff. However, it should be noted that employer engagement is inhibited by multiple barriers including lack of funding for dedicated staff to coordinate departmental employer engagement and uncertainty about the market for CPD/ consultancy activities and the financial returns they may yield. Case studies to illustrate the impact and value of employer engagement were proposed as a helpful way of promoting and motivating innovations.

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## References

- Brown, N. et al. (2008)** The Future Size and Shape of the Higher Education Sector in the UK: threats and opportunities. Universities UK. July 2008. [http://bookshop.universitiesuk.ac.uk/downloads/Size\\_and\\_shape2.pdf](http://bookshop.universitiesuk.ac.uk/downloads/Size_and_shape2.pdf)
- DfIUS (2008)** Higher Education at Work - High Skills: High Value. Consultation document, April 2008. [http://www.dius.gov.uk/consultations/documents/Higher\\_Education\\_at\\_Work.pdf](http://www.dius.gov.uk/consultations/documents/Higher_Education_at_Work.pdf)
- Leitch, S. (2006)** Leitch Review of Skills: Prosperity for all in the global economy – world class skills. HM Treasury. December 2006. [http://www.hm-treasury.gov.uk/media/6/4/leitch\\_finalreport051206.pdf](http://www.hm-treasury.gov.uk/media/6/4/leitch_finalreport051206.pdf)

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