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# Embedding employability and employer engagement into postgraduate teaching: a case study from 'environmental management systems'

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## Abstract

This paper investigates whether the practice of embedding employability and employer engagement into the curriculum can lead to beneficial outcomes for students, Higher Education Institutions (HEIs), participant organisations, and employers in general. The practice is evaluated through the case study of a specialist postgraduate module in Environmental Management Systems (EMS) at the University of Southampton. The pedagogical approach is discussed, along with an analysis of the key learning and employability outcomes. The case study demonstrates the viability of developing a specialist employability profile, with a focus on relevant practical experience through a single module, whilst also enhancing core employability skills. Although the process and outcomes relate to a single specialist module approach, many of the findings are applicable across the range of approaches for embedding employability and employer engagement into the GEES curriculum.

## Introduction

The practice of embedding employability into the curriculum has been the subject of much debate in the Higher Education (HE) sector (Yorke and Knight, 2004a; Gedye and Chalkley, 2006). This is likely to continue as increased financial pressures, combined with greater student numbers, raise the importance of employability with both students and HEIs. Employers who recruit graduates for technical specialist roles, such as in environmental management systems (EMS), expect a defined employability profile and an advanced level of expertise and experience in key subject areas. Recruitment of graduates with core technical skills and experience has proven to be a current problem in the Environment Agency, for example (Thomas, 2008), and one that might be difficult to address through the more generic employability profile offered through the embedding process into the curriculum.

To assist students seeking technical specialist roles it is thought that developing a defined employability profile will be of benefit to both the student and the

employer. A range of different approaches exist in the HE sector for developing employability profiles in students. This might take place through embedding employability into the whole degree programme, core modules, Work-Based Learning, Personal Development Planning (PDP), and employability-related modules (Yorke and Knight, 2004a; Gedye and Chalkley, 2006). The 2006 HEFCE strategy, 'Engaging employers with higher education', recognises the need for the HE sector to improve collaboration with employers to enhance the employability skills of students, whilst maximising the benefits for employers in terms of recruitment and retention.

The approach presented in this paper is that of embedding employability and employer engagement into a specialist employability-related postgraduate module. The aim is to assess the viability of developing a specialist employability profile, with a focus on relevant practical experience through a single module, whilst also enhancing core employability skills.

## The case study module – environmental management systems

The case study module, 'Environmental Management Systems' (EMS), was optional on the MSc Integrated Environmental Studies, and compulsory for students on the MSc Environmental Monitoring and Assessment and Master of Environmental Science (MEnvSci) programmes at the University of Southampton. The module has been taught with the emphasis on the application of practical skills since its inception in 1997. The module coordinator has developed and implemented EMS in a number of companies over the last 10 years, ensuring the professional relevance of the content. The latest revision of the module involved the engagement of a local company to form the case study for the teaching of the module, and to provide students with experience of working for a client in a professional capacity. The module took place during semester one of the academic year 2007/2008, involving a class of thirty students. The overall aims of the module are outlined in Box 1. An outline of the case study company is in Box 2.

### Box 1: Overall aims of the module

- To enhance the employability profiles of the students
- To meet the learning outcomes of the module
- To enhance employer engagement in the School
- To develop an EMS manual for the case study company
- To help the case study company attain certification to ISO14001

### Box 2. Outline of the case study company

- Local construction small enterprise with large subcontractor base
- Wide portfolio of construction projects in the South of England—commercial, education, residential
- Contacted through regional economic partnership body and the sustainable business partnership
- Looking to establish a competitive advantage through environmental management, and to engage with the University

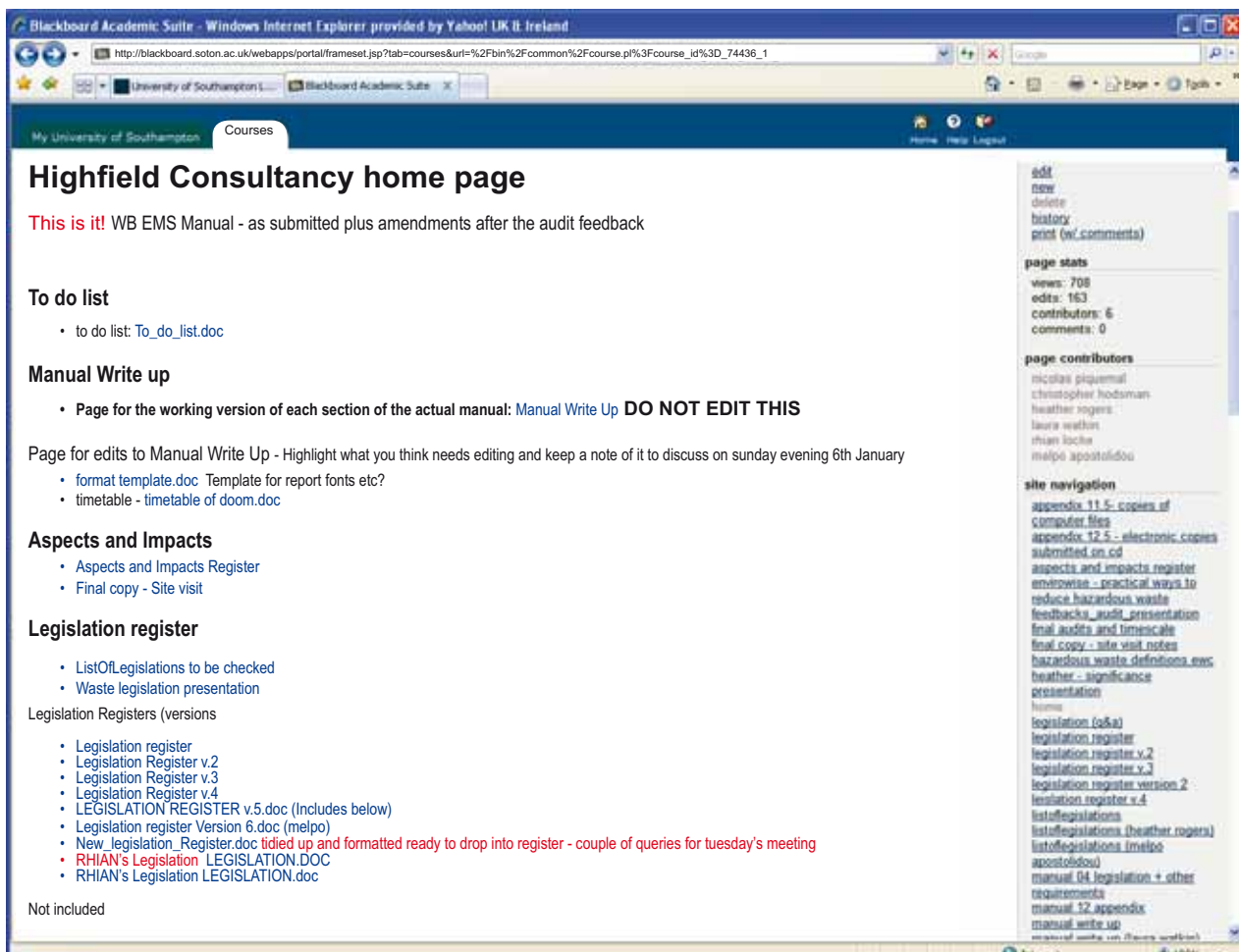


Figure 1: Screenshot of a consultancy team wiki site home page

## The pedagogical approach

The pedagogical approach adopted used a combination of lectures, company site visits, company correspondence, company presentations,

group feedback sessions, class discussion forums, group blogs and wiki sites (Table 1) to embed employability and employer engagement throughout the module.

Module content	Description of content
Lectures	Weekly double lecture sessions addressing individual components of an EMS, structured to ISO14001:2004 requirements.
Formation of five consultancy teams of six students	Teams of balanced strength profiles selected by module coordinator, divided by mixed nationalities, areas of expertise, previous work experience, areas of first degree or main academic strengths.
Company head office & construction site visits	Company-led formative group visits to give students experience of identifying environmental aspects and impacts in a company setting.
Email correspondence with the company	Weekly formative environmental performance, data, and legal compliance questions sent by each consultancy team to the module coordinator. Questions grouped together and sent to the company contact.
Weekly progress sessions	Five-minute formative progress presentations delivered by each consultancy team, with each team member required to deliver at least 1 presentation
Weekly feedback sessions	Each consultancy team given detailed formative feedback on progress by module coordinator and required to answer questions by members of other groups
Consultancy team blogs and wiki sites	Use of blogs to facilitate easier student communication within teams, and wiki sites to build a resource base of the different collaborative versions of each section of the EMS manual (See Figure 1)
EMS manual	Assessed submission of consultancy team EMS manuals meeting key ISO14001:2004 requirements for the case study company
ISO14001 certification audit	Assessed 1 hour 'mock' ISO14001:2004 certification audit of the EMS manual for each consultancy team, conducted by module coordinator and consultant lead environmental auditor of 12 years experience
EMS manual presentation	Assessed 15 minute presentations by each consultancy team to the company board of directors

Table 1: Module pedagogical approach

## Evaluation of the module outcomes

The relative success and failure of the module was evaluated through a module feedback session (100% participation), student questionnaires (100% response rate) and a student focus group five months post module completion (20% student representation).

## Student learning outcomes

Each element of the pedagogical approach was valued by the students with regard to learning the discipline of EMS (see Box 3). The format of lectures covering individual components of EMS, followed by consultancy teams putting the theory into practice through the weekly development of the case study manual, with progress presentations and feedback, was well received. Students engaged fully with the exercise, producing presentations of a consistently high standard, enhancing their presentation skills and experience in the process. The use of formative tasks can occasionally be problematic and not taken seriously by students due to the lack of assessment marks. However, overall in common with Yorke & Knight (2004b), it was found that the successive formative tasks leading to the primary summative task of the assessed EMS manual, led to full student engagement throughout the module. A further benefit of the formative progress presentations and accompanying feedback was that they encouraged student reflection, which enhances meaningful learning (Moon, 2004).

### Box 3: Student learning outcomes feedback

*'Allows us to develop clear understanding of EMS through hands-on experience'*

*'Produced something very comprehensive for a real-life company'*

*'Really helps you to know how to implement an EMS'*

*'Relevant to real life. Excellent real case study'*

The assessed exercises received positive and negative feedback (See Box 4). The greatest criticism from the students lay in the amount of work in coordinating meetings and producing the materials to develop the EMS manual. In addressing these concerns, the use of wiki sites for communication and building collaborative documents was found to be a particularly valuable mechanism for performing group work, and can be seen as appropriate use of an IT platform to assist learning in a predominately practical, site-based discipline.

### Box 4: Student assessment methods feedback

#### Criticisms:

*'Lots of work, difficult organising team meetings'*

*'Large groups, difficult to coordinate'*

*'Heavy workload, although can't suggest how to reduce it'*

#### Positive comments:

*'Excellent method of learning what could be a very difficult to grasp subject'*

*'Blogs and Wiki sites very useful'*

*'Scary, but very useful audit and board presentation'*

#### Focus group five months after module completion:

*'Looking back the total workload wasn't that much greater than other modules in total'*

*'No exam meant the workload balanced out'*

## Student employability outcomes

One of the primary considerations during the development of this module was to create a series of exercises and experiences that would enhance the employability profiles of the students. Working to the definition of employability proposed Yorke of '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), this module set the following employability aims for all students:

#### Aims:

- Direct professional experience of EMS
- Commercial application of theory of EMS
- Improved commercial understanding of EMS
- To reach the equivalent EMS skill standard of the main professional body training course
- Practical experience of a growing area of employment
- Enhanced presentation skills
- Professional report writing skills
- Improved time management

- Improved team work skills
- Enhanced CV for employment in environmental management

The feedback session, questionnaires, and focus group responses indicated a high degree of satisfaction with each of the employability aims (See Box 5).

#### **Box 5: Student employability outcomes feedback**

*'Working with a real company gave a sense of achievement'*

*'Very practical and provided lots of guidance for students in their future careers in ISO14001'*

*'Gave an insight into how the real world works – very useful reality check after 3 ½ years of environmental study'*

*'Makes you manage your time'*

*'Very practical experience, team work, organisation skills'*

*'Real company therefore something valuable to talk about in job interviews. Feel I am employable as a result'*

*'At last, learning about something useful in the workplace making us more employable – not enough of this'*

*'We definitely need more practical and employable modules'*

It should be stated that the focus on employability and engaging with a company was a very different experience for all students. In spite of this, the employability focus of the module was very well received with most students achieving a real feeling of achievement in not only producing a manual for a client, but also realising it was to be put to practical use for commercial and environmental gain. One of the more surprising outcomes from the module was the desire to embed employability into other modules. The majority of students felt that other appropriate modules should adopt a similar approach as they were keen to enhance their employability skills and were worried about their employment prospects post graduation. This is a finding that supports Cade's assertion that students are *'concerned about the preparation for their employment provided by Universities'* (Cade, 2008, p. 3).

#### **Box 6: Case study company outcomes**

- EMS manual – meeting most of the requirements of ISO14001 for very little temporal and financial cost
- Compliance with existing environmental legislation (e.g. Duty of Care Regulations, Oil Storage Regulations)
- Ensured compliance with emerging sector relevant environmental legislation - Site Waste Management Plans (SWMP) Regulations
- SWMP training for all site managers
- Increased environmental awareness throughout the company
- Regional project publicity in newspapers and sector publications
- Competitive advantage
- Nominated at local business awards for environmental performance
- Engagement with the University of Southampton

#### **Case study company outcomes**

UVAC (2005) stated there is a lack of a desire from employers in the commercial sector to engage with HEIs. This module was developed not solely to address the employability profiles of students, but also to deliver significant benefits for participant companies. During the project negotiation stage, the primary benefit presented to the company was the development of an EMS manual to meet most of the requirements of ISO14001:2004 (it is not possible to develop a fully operational and audited EMS in the space of one semester). Upon completion of the project the company stated they received further unpredicted benefits (See Box 6).

The participant company stated the project exceeded their expectations, both in terms of extent of outcomes and the standard of the work. In recognition of this, cash awards were presented to the best consultancy team EMS manual, best presentation to the board, and best SWMP.

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## HEI Employer engagement outcomes

The process of employer engagement has associated benefits for the participant HEI, in addition to those offered to the company and the students. The main outcomes that occurred for the School from this particular project are outlined in Box 7.

### Box 7: HEI outcomes

- Ensures professional relevance in the curriculum
- Regional publicity
- Improved links with the regional business community
- Further work-based experience for some students, enhancing their employability profiles
- Continuing professional work for the module coordinator to retain practice and relevance in teaching
- Ongoing relationship for future student final year research projects
- Participation of the company in a EU Framework bid

## Conclusions

This paper has demonstrated the viability of developing a specialist employability profile, with a focus on relevant practical experience through a single module, whilst also enhancing core employability skills and meeting the learning outcomes. It has shown that many beneficial outcomes can be obtained for all stakeholders from embedding employability and employer engagement into the curriculum. The case study explored the process and outcomes from a single module approach, but many of the findings are applicable across the range of approaches for embedding employability and employer engagement into the curriculum.

The module contributed to the enhancement of general employability profiles for students along with the development of a specialist employability profile and the advanced level of expertise to pursue a career in EMS; an EMS manual meeting international standard requirements for minimum

cost, legal compliance support and positive regional publicity for the case study company; up-to-date professional content within the curriculum and current relevance in teaching. This model, demonstrating clear benefits for all stakeholders, is one route that could be followed when seeking private sector employer engagement with all the employability benefits for students that it entails.

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