

PROFESSIONAL PRACTICE AND CONSTRUCTION UNDERGRADUATES EMPLOYABILITY SKILLS

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Employability skills are known to be valuable to undergraduates when entering the workplace and expected by employers, yet, in construction as in many disciplines, these skills often are not well developed. However, construction professionals frequently work in complex dynamic environments and employability skills may enhance undergraduates' practitioner effectiveness. Therefore it is important tutors exploit opportunities to help undergraduates develop their employability skills. This paper examines the extent to which built environment undergraduates in a post-1992 university have opportunity to develop their employability skills through assessment. Data was gathered from students' evaluation of their development of employability skills and from written assessment feedback provided by tutors to students. Thematic analysis of the data was undertaken. Findings suggest students have limited understanding of employability skills and tutors give limited attention to their development. The examination of written feedback supported this latter point - tutors' major concerns were to develop students' subject knowledge and academic skills. It seems, then, promoting development of built environment students' employability skills may be an underused aspect of undergraduate learning provision. This suggests enhancing the student - tutor assessment dialogue offers the opportunity to better prepare students for industry and their professional practice.

Keywords: education, professionalism, undergraduates.

INTRODUCTION

The Confederation of British Industry (CBI 2012) identify the need to enhance undergraduates employability skills, which they define as a positive attitude, self-management, team-working, business and customer awareness, problem solving, communication and literacy, application of numeracy and application of information technology. It is recognised higher education contributes to a healthy economy (Leitch 2006; Smith *et al.*, 2010) and further developing graduates employability skills has potential to enhance this contribution. Therefore it is important tutors exploit opportunities to help undergraduates develop their employability skills in readiness for the workplace. The function of higher education for society and contribution to knowledge and innovation could be debated. However, undergraduates are concerned with value for money and their subsequent employment opportunities (Kandiko and Mawer 2013).

It is the student as consumer that tends to define satisfaction rather than the value of education per se (Jones-Devitt and Samiei 2011). In the current market-driven higher

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education landscape, ignoring undergraduates' concerns potentially could be disadvantageous for an institution. Construction Management undergraduates study on professionally accredited courses, and as such there may be an assumption that they develop both subject specific knowledge and appropriate professional employability skills. To evaluate development of undergraduates' skills within this context, a doctoral study focusing on development of undergraduates' employability skills is being undertaken. In particular, the research explores how such skills may be developed through enhanced constructive alignment of teaching, learning, assessment and feedback with employability skills.

Integrating employability within the curriculum, rather than a piecemeal approach is valuable to aid learning (Knight and Yorke 2003). In some undergraduate disciplines, for example nursing, development of undergraduates' professional skills and competencies are often embedded within course delivery to students learning advantage (Bland and Ousey 2012; Wu, Heng and Wang 2015). In construction management courses this inclusion remains more opaque. The Chartered Institute of Building (CIOB) helps shape curriculum in courses it accredits (CIOB 2014) and also monitors courses through the assessment and accreditation processes. However, unlike for example professionally recognised nursing courses where undergraduates frequently are assessed through real-world situations, construction management undergraduates are not infrequently assessed through paper-based written scenarios. For construction management students, providing authentic assessment and constructively aligning assessment feedback with professional practice may help strengthen links between academic learning, professional practice and employability skills, thus supporting the development of undergraduates as effective construction industry practitioners.

The study initially sought to understand why students, in particular built environment students, evaluate assessment feedback as the weakest part of their learning experience (Lamond, Proverbs and Wood 2013). However, it emerged that assessment feedback gives little regard to developing employability skills in students, tending instead to focus on academic protocols and knowledge. Therefore focus has now shifted to explore the relationship between undergraduates' formal academic learning and professional practice competencies, and how these contribute to students' development as effective industry practitioners.

The term 'constructive alignment' (Biggs 1996) is concerned with the alignment of teaching, learning activities and assessment with Learning Outcomes in order to promote effective learning (Walton 2011). It is proposed here that professional practice should also be considered integral to constructive alignment, integral to the learning experience and which therefore includes assessment feedback. This offers the opportunity to enhance students' development as effective practitioners. It is this constructive alignment that is now the focus of this research.

Constructively aligning feedback with teaching, learning, assessment and employability skills would represent an important opportunity to enhance students' development as effective practitioners, providing direction and guidance. Constructive alignment of these has potential to enhance learning, closing the loop of assessment, student performance and professional practice. At this time of national economic stringency and debate surrounding the cost and funding of higher education (Tatlow and Conlon 2013), efficiently providing a high quality teaching and learning environment that supports students' academic and professional development is more

important than ever; enhancing development of employability skills has potential to add value to development of students' professional practice skills. In turn these would benefit students and employers. This paper presents early doctoral research, a 'work in progress'.

Assessment in undergraduate courses in the UK is designed around Learning Outcomes, which map knowledge and skills that it is intended students develop. Teaching and assessment are designed around these Learning Outcomes. At the course level, it is intended these Learning Outcomes are integrated; that they will develop in students an appropriate range of knowledge and skills with assessment being diverse across the course as a whole. This would mean that students are assessed in a range of ways that would develop and test a diversity of skills, and which may include, for example, examinations, report writing, group work and presentations. In addition, many institutions offer undergraduates curriculum enriching learning opportunities, such as site visits, field work and talks by visiting practitioners.

THEORETICAL PERSPECTIVES

The nature and value of employability skills

The CBI (2012) define employability skills as positive attitude, self-management, team-working, business and customer awareness, problem solving, communication and literacy, application of numeracy and application of information technology. The Higher Education Funding Council for England (2015) define transferable skills as "the transferable core skills that represent functional and enabling knowledge, skills, and attitudes required in today's workplace. They are necessary for career success at all levels of employment and for all levels of education". Although these are not the same as employability skills, this does illustrate the value placed by employers on 'soft skills'. There is then no single widely accepted definition that incorporates employability and transferable skills explicitly, but they may be considered as those skills beside technical knowledge of a subject that allow the individual to function effectively as a professional practitioner in the workplace for the benefit of employers, firms and the individual.

However, professional bodies such as the Chartered Institute of Building (CIOB) expect accredited undergraduate courses will contain a significant quantity of Mode 1 knowledge as central to the learning experience. Gibbons, Limoges and Nowotny (1994) propose two different modes of knowledge - Mode 1 "traditional knowledge ... generated within a disciplinary, primarily cognitive, context" (p.1) and Mode 2 knowledge, which is "created in broader, transdisciplinary social and economic contexts" (p.1). Mode 2 knowledge is applied, does not necessarily follow discipline boundaries and is concerned with professional practice, which is the focus of this research. The importance of creating new knowledge and encouraging links between industry and academia was recognised in the 1993 White Paper, "Realising Our Potential". It is these links that are important in helping undergraduates develop their professional employability skills, and that are important in providing employers with graduates who are able to make an effective contribution to the organisation.

Schoonmaker and Carayannis (2013) develop the definition of knowledge further and propose Mode 3 knowledge. They argue for the inclusion of civil society as well as academia, government and industry in the creation of knowledge. Together, these three modes suggest that it is difficult to define knowledge and that, potentially, knowledge has practical application, particularly when professional practice is

involved. However, as Sousa (2011) acknowledges there sometimes exists in higher education a tension between types of knowledge and their respective values.

There may, then, be a tension between academia and requirements of industry. Employers may use graduation as a means of determining the extent of Mode 1 knowledge an individual possesses and subsequently concern is around the extent to which students are able to use their knowledge in the real world. Boden and Nedeva (2009) argue that the expansion of higher education has political consequences and universities reproduce hegemonic class structure in their creation of passive employees. Certainly this is a compelling argument, but does not change the day-to-day necessities of universities and their production of graduates for industry, nor of the undergraduates who follow such courses with intention of pursuing a career in particular industries.

The nature and value of assessment and feedback

In a construction management discipline, assessment, "a form of testing or evaluation" (Sambell, McDowell and Montgomery 2013: 3), is frequently designed around professional practice, and may be regarded as an important part of the context the tutor creates. Feedback is part of that context, and should promote learning (Hernández 2012). As Prosser and Trigwell (1999) recognise, context is important for learning, and it remains the responsibility of the tutor to create a suitable learning environment. Black and William (1998) found a positive impact of effective assessment, designed to facilitate learning. In recent years, definitions of employability have shifted with increased emphasis on soft skills such as communication and customer awareness as well as subject specific skills and competencies (Higher Education Academy 2015).

Student learning may be enhanced by assessment feedback as part of a two-way dialogue between tutors and students to enhance student learning (Evans 2013). Feedback is effective if it is timely, relevant meaningful and that the student can understand (Entwistle 2009) and is of an optimal volume. Positive feedback is that which helps learning (Askew and Lodge, 2000). Effective feedback should be acted upon by students' and help improve their learning experience (Shute, 2008; Higher Education Academy, 2013). It is to be noted then that a key function of feedback is to promote student learning. This research is concerned with how this feedback may be better integrated - aligned - with teaching and assessment to help develop undergraduates' employability skills.

Overview

Examination of literature has thus far revealed that to develop students as effective practitioners in higher education institutions comprises a blend of transferring technical, mode 1 knowledge, and developing students effective transferable and employability skills, mode 2 knowledge. These may be delivered more effectively through the tutor being assessment literate and constructing effective assessment which tests this blend of knowledge and skills. Additionally, the tutor should be constructively aligning academic and professional knowledge and competencies through their teaching, assessment and feedback strategies may promote development of employability skills.

This paper proposes that if any of these elements are missing or weak, it is likely that students may not be able to gain the maximum benefit from the experience to enhance their professional and academic development.

METHOD

The aim of the work in progress presented here was to make a limited initial exploration of students understanding of employability and transferable skills, and tutors development of these through assessment and assessment feedback.

The data gathering had two strands, one exploring students' perspective and one exploring tutors written feedback comments. First, to ask a sample of $n = 46$ students what they understood the professional practice, employability and transferable skills to be that they each were developing on their course. The students were asked to write on a blank piece of card what professional practice, transferable or employability skills they felt developed through their course. Names or course details were not recorded although students were invited to note on the card whether they were full-time or part-time. These cards were then gathered in for thematic analysis. Cards the students produced were read, re-read multiples times and coded according to themes that emerged during this process (Pettigrew, Archer and Harrigan 2016). This was an iterative process (Guest, MacQueen and Namey 2012). Some cards contained more than one theme and these were identified and each included separately.

The second strand of data gathering was to examine written assessment feedback provided to undergraduate students on mark-bearing assessed coursework in a construction discipline. It was felt that "unobtrusive measures" (Gray 2014: 498) were valuable here as it was important to maintain discretion and anonymity whenever possible. The sample used was one of convenience, comprising $n = 71$ items of assessed coursework that had been submitted, marked and contained written feedback on the front cover. Coursework items ranged across all undergraduate levels of study, that is, undergraduate levels 4, 5 and 6. The work used had all been made available for external examiners to view during the assessment round, and this assured a level of 'quality' as examiners had previously described the feedback as 'good'. It is worth noting that this was not a random sample, although there is nothing to suggest that the feedback comments would be different from any other work. However, it is recognised that generalizability from such a small sample is not possible. To examine the feedback, thematic analysis was again used. The themes were then examined for reference to professional skills in whatever way this might be articulated, whether semantic or latent (Braun and Clarke 2006).

Assessment should be designed around the intended learning with mark schemes designed accordingly to develop appropriate skills or knowledge in students. It was expected that as the courses are professionally recognised, so the assessment would relate to professional practice, with feedback utilized to integrate these - in short, to constructively align. It was accepted that reference to any of the areas may have been oblique, and so judgement would have to be used. There would have to be clear reference to professional practice or specific skills. It was felt that if the researcher could not recognise these then nor would students.

Limitations of this study

First, thematic analysis could be considered limited in its approach. Second, the sample has two considerations, the sample size was small and also was not a random sample. Each of these may have limited the study. However, it is argued that this is suitable for this first part of the research as it identifies key issues worthy of further investigation.

FINDINGS AND DISCUSSION

Students' perspectives

Table 1 shows frequency of relevant common themes with examples to provide an overview of the data landscape (Guest, MacQueen and Namey 2012).

Table 1: Themes from students' perspectives

Mode of study	No. of students	No. identifying communication or literacy	No. identifying other skill	No. with none identified	Example
Full-time	19	1	3	15	Independent research
Part-time	22	7	2	13	Report writing
Not stated	5	0	0	5	None
Total	46	8	5	33	

Of immediate note was the limited understanding students had of professional practice and employability skills. N = 33 students were unfamiliar or unaware of what such skills comprised. They frequently wrote about development of academic knowledge within particular modules, but not skills development.

It was notable too that part-time students had greater awareness of employability skills than did the full-time students. Potentially this may be because of their greater understanding of the workplace, although this would benefit from further investigation.

Most frequently students wrote about professional writing, as this had been stressed in their subject lectures to help them understand the value of the subjects they study. Only n = 1 identified communication specifically as a skill. The students made no links between curriculum assessment and professional practice.

Tutors feedback: Employability skills

Tutors did not make explicit reference to employability skills but tended to identify areas of note for students without identifying them as employability or transferable skills.

A total of n = 27 items, 38% of the total, made indirect reference to employability skills. The skill most commonly cited was communication, although this tended to be oblique, for example 'well presented' being a typical comment. Reference was also made to professional practice but these comments were description or analysis of what practitioners do rather than an evaluation of students efforts in such a professional capacity.

Rawlins and Marasini (2011) identify the paucity of employability skills and work experience of undergraduates as problematic. It seems from this research that employability skills tend to be delivered in a rather piecemeal way and lack focus as tutors consider the academic content of their teaching and assessing, which indeed is important. The research will consider the potential for undergraduates' employability skills to be developed through enhancing assessment and assessment feedback. It seems thus far that the nature of assessment may influence undergraduates' development of these skills, that enhancing their development through integrating assessment feedback with employability skill development is a missed opportunity.

Developing students as professional practitioners and preparing them for employment can be considered central to construction undergraduate courses. Constructive

alignment (Biggs 1996) of teaching, learning and assessment is necessary for the enhancement of the student learning experience. However, for professionally accredited courses, such as construction, which seek to develop students as effective industry practitioners, this paper proposes it is important additionally to align also with professional practice competencies to develop students' employability skills. This has potential to enhance qualitative delivery of curriculum to help develop students' knowledge and professional skills rather than focusing only on knowledge transfer (Trigwell and Prosser 2014).

It was surprising to find that neither students nor tutors are as overtly engaged with development of employability skills as might have been supposed, given the vocational nature of the courses and their industry-accredited status. Construction management, and indeed many built environment undergraduate courses, are designed around professional practice, developing skills and knowledge that industry requires.

It is interesting to see that assessment may frequently appear to be closely aligned to professional practice, but in reality may sometimes lack authenticity. This may be a consequence of courses that are classroom based and also potentially where there is concern to meet academic standards. "Authentic learning environments" ... are important in developing effective practitioner skills in nurses (Weeks *et al.*, 2013: 53), and this may therefore also be highly relevant to other disciplines.

It is also interesting to note that communication is the skill which emerges most frequently in tutors' written feedback. However, overall it seems that employability skills tend to be developed in a rather piecemeal way rather than the result of a structured strategy.

CONCLUSIONS

The sample size is small and analysis limited, which therefore means these findings must be treated with caution. However they suggest the need for further research to explore this issue in depth. The research intends next to explore the nature of assessment briefs provided to undergraduates as well as examine more closely the constructive alignment of teaching, learning and assessment with professional practice employability and transferable skills.

A key function of higher education is to provide industry with graduates who are effectively prepared for professional practice. Effective practitioners should be able to make a positive contribution to the organisation as well as their own self-development. Such graduates would enhance the work of organisations for the benefit of clients as well as contributing to an efficient economy and economic growth.

Employability skills tend to be delivered in a piecemeal way, rather than embedded within the curriculum and developed unambiguously. Students are taught a range of knowledge and skills, but linking these and professional practice remains opaque. For full-time students in particular with little or no experience of professional practice this represents a missed opportunity to develop their appreciation of the industry they are to enter and skills employers expect.

This study suggests there may be opportunity to enhance the construction undergraduate learning experience in a low-cost effective way to help develop students as effective practitioners. Although courses are professionally recognised and Learning Outcomes map the knowledge that students are expected to acquire throughout the lifetime of their studies, it seems there is scope to enhance their learning further through re-evaluation of assessment and feedback. Feedback could be

enhanced to integrate student learning with skill development. Tutors, primarily concerned with technical issues, may need to consider how best this could be achieved. Possibly training or other support for tutors is appropriate here.

To be more effective in developing undergraduates' employability skills and professional practice competencies assessment should be based on:

- Constructive alignment between teaching, learning, assessment and professional practice; and
- Reference to professional practice and employability skills in feedback narrative using appropriate language that students understand.

These findings structure the next phase of this research which will examine in more detail the qualitative dimension of assessment and feedback, tutors perspectives and interpretations of professional practice competencies held by students on professionally recognised built environment courses.

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