

THE INTEGRATION OF PROFESSIONAL COMPETENCIES INTO CONSTRUCTION MANAGEMENT DEGREES

Chris Hill Course Leader

BSc (Hons) Construction Management, Sheffield Hallam University

Introduction

All vocational degree courses have the implicit and explicit intention of providing employers in the related business sector with adequately prepared graduates. This means there is a certain expectation on the part of the employer as to what characteristics and attributes a graduate from that discipline will possess.

The corollary drawn from this is that graduates from vocational degree courses have to have developed those characteristics and attributes which employers require. There is an expectation on the part of the student that they will be adequately developed in these attributes through the education they receive on the course. The vocational nature of the course enables both the expectations of employers and students to a large extent to be met.

It is important to note that this development is not confined to assessed elements of the course. The learning process and individual development of the student is just as important as the academic results of assessment.

The process of matching the requirements of the employers with course provision is always difficult. For a course such as Construction Management, where there is such a diversity of employers, a wide variety of roles, and an ever changing business environment, this difficulty is exacerbated.

However, the Chartered Institute of Building, in identifying the nine competence areas for the Professional Development Programme, has made a significant contribution to the process. The CIOB can in this case be considered to represent employers on the one hand, and is the accrediting body for vocational degrees in the field on the other. The CIOB therefore has a role in ensuring that the competencies are valid for graduates and for employers.

Chartered Institute of Building Professional Competencies

With the development of the Professional Development Programme (CIOB 1997), the CIOB made an explicit effort to identify those skills or competencies it required for individuals to become full chartered members of the body. This in turn provided detailed guidance for vocational degree course providers in the sector to design their courses accordingly. It should be remembered that this falls outside the CIOB educational framework which provides a map against which all relevant degrees have to be matched to gain accreditation.

The competencies identified by the CIOB are as follows:

“CIOB Professional Competencies:

1. *Decision Making*
 2. *Communicating*
 3. *Managing Information*
 4. *Planning Work*
 5. *Managing Work Quality*
 6. *Managing Health and Safety*
 7. *Managing Resources*
 8. *Assess Environmental Risk Factors* **or**
 9. *Managing Costs*
 10. *Personal Management at Work*
- (CIOB 1997)”*

These represent a generic set of competencies applicable to the full range of employers in the sector, and across the wide variety of roles appropriate to graduates. These are appropriate not just for graduates entering the construction sector at the present time, but also in preparing them for future changes in the construction sector.

Integration of Professional Competencies in the Curriculum

The professional competencies can provide a useful checklist for unit tutors in examining their curriculum content. Usually this is done after the units have been designed, in accordance with the requirements of the educational framework to comply with accreditation requirements.

For the BSc (Hons) Construction Management course at SHU this process was adopted in a number of units including in the first year: Construction Process and Construction Management; in the second year: Production Organisation and Information Technology, Measurement, and Land Surveying; in the third year: Assessed Industrial Experience; and in the final year: Integrated Project, Dissertation, and Construction Commercial Studies.

The range of units provides an opportunity for a range of perspectives to be given to the individual competencies. Further, it demonstrates the breadth of the competencies as identified.

Individual Example

The final year integrated project unit is designed to combine new and pre-existing knowledge developed by the students in other units, and involves them in an interprofessional group process. The students undertake this project in groups of three or four with a mix of construction management and quantity surveying students.

The students are required to work on a case study project of a small contracting company considering a major school project. The students act as advisors and consultants to the company and provide reports and guidance based on their analysis of the issues.

Overall the integrated project unit involves the following competencies (1) Decision Making, (2) Communicating, and (3) Managing Information. Specific tasks attached to the project, such as a breakdown of the costs of the school contract involve these, plus (4) Planning Work, (7) Managing Resources, and (9) Managing Costs. In this way, an academic unit of study, the Integrated Project, can incorporate six or more of the CIOB Professional Competencies. In addition, the students are encouraged to use generic skills learning packages such as Key Skills on Line (Drew and Bingham 2000). These allow the students to develop their own mix of individual professional development, whilst achieving the academic aims of the Unit.

By way of example, a specific task within the above project is as follows:

"As consultants, Mr Smith requests that you calculate and produce accompanying graphs/tables for:

1. The cash flow for the project.
2. Plotting cumulative cash in and out against time."

(Watson P.p11 2002)

To support this task, students are provided with a detailed cost breakdown of the elements of project, together with a Gant chart of the school contract programme.

The students are expected to demonstrate the following competencies: (3) Managing Information - the information provided has to be extracted, interpreted, and compiled in a form fit to be presented by the students as consultants. For competencies (7) and (9), Managing Resources and Managing Costs - the task is based around the distribution of resources within the company, arising from competing demands from contracts. Students have to demonstrate the ability to optimise finances to undertake the projects required. In addition, they have to produce a plan to control cash requirements for a specific project using cost curves, and other appropriate computer techniques.

Conclusion

The preparation of students for the world of work is one of the key aims of Higher Education. For vocational courses, such as the BSc (Hons) Construction Management at Sheffield Hallam University, this is an explicit aim which has been incorporated into the curriculum design for many years. Where there is a professional body which represents employers in the sector, such as the CIOB, this body can identify and focus upon specific employer requirements. The CIOB professional competencies serve this purpose. These professional competencies can then be incorporated into the

curriculum to give students the opportunity to develop the skills relevant to their current and future employment.

Best Practice Points:

- Integrate the competencies into a broad range of units.
- Make explicit reference to the professional competencies in the unit outlines
- Do not attempt to assess all (or any) of the competencies in each unit
- Demonstrate where the professional competencies are directly related to the academic learning outcomes of the unit
- Relate the professional competencies to other employment skills packages, such as Key Skills on Line.
- Relate the professional competencies to relevant industrial experience the students may have, e.g. sandwich placement.
- Raise student's expectations to submit work which is of a professional standard.

References

The Chartered Institute of Building 1997 *Professional Development Programme: graduate training leading to CIOB corporate membership*. CIOB Ascot UK

Drew and Bingham 2000 *Key Skills On Line*
<http://students.shu.ac.uk/lc/skills/keyskills.html#kso> Sheffield Hallam University, Sheffield UK

Watson P 2002 *Integrated Project SED 3301 Case Study and Guidance Notes* Sheffield Hallam University, Sheffield UK