

SKILLS PLUS: AUDIT OF THE UNDERGRADUATE HIGHER NATIONAL PROGRAMMES IN THE CONSTRUCTION GROUP AT LIVERPOOL JOHN MOORES UNIVERSITY

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Background

The Higher National Diplomas (HND) and Certificates (HNC) were developed in the 1920s to try and address the skills shortage after the First World War. Their structure may have changed over the years but the main aim of addressing vocational education still remains. The current BTEC Higher National qualifications in Building Studies offered at Liverpool John Moores University (LJMU) have evolved from the original qualifications that were first offered by the Liverpool College of Building over 70 years ago.

The BTEC Higher Nationals are level 4 qualifications and are designed to equip students with the:

knowledge, understanding and skills required for success in current or future employment or for progression to an undergraduate degree. (Edexcel, 2003)

All Higher National programmes include Common Skills that are modules within their own right which must be assessed and passed by the students to gain their award.

The HND/C programmes that were involved within the skills *plus* audit were in Building Production Technology and Building Surveying. These programmes had recently been internally validated after revisions to the content and structure to meet the changes in 2002 to the BTEC national framework for construction programmes. The audit was a useful exercise in two main areas:

1. It ensured that across the programme we were actually offering the full spread of competences.
2. It provided useful information for the Programme Team when carrying out the internal review after the first year of running the new structure at Level1.

Yorke and Knight (2003) identify that good learning and employability intentions need to be supported by learning, teaching and assessment approaches that are consistent with curricular intentions. For this reason the 39 Employability Aspects identified by skills *plus*, were considered based on the content, structure of teaching and the assessment methods within each module. So for example, if the module was assessed by an exam this was addressing stress tolerance within the Personal Qualities area (see later discussion).

This case study when referring to HND/C qualifications, unless otherwise stated, refers to the Building Production Technology and Building Surveying programmes at LJMU.

Current Position on Common Skills

At present to achieve the award of the HND or HNC, in both HE and FE, all Common Skills must be assessed and passed. However, this is all set to change in September 2003. Edexcel are at present going through the process of accreditation for their Higher National programmes with the Qualifications and Curriculum Authority (QCA) to fit the National Qualification Framework (NQF). In the new framework Common Skills will not be included. Current BTEC Higher National Programmes will retain their Common Skills until September 2004 and then must move over to the NQF specifications (BTEC Higher Level Bulletin, 2003). Higher Education and their franchise colleges under Edexcel Licence Agreements are not affected by these new changes and can continue to offer and assess Common Skills.

The Building HND/C Programmes have always incorporated the 'common skills' areas of:

1. Managing and developing self
2. Working with and relating to others
3. Communicating
4. Managing tasks and solving problems
5. Applying numeracy
6. Applying technology
7. Applying design and develop creativity

These skills areas are then further expanded into competences that are required to have met that skills area. Table 1 outlines the competences attributed to each skill area.

When developing modules for the programme, the skills areas and the competences within that area are identified, to ensure that across the total programme the students are able to evidence all competencies within the skills area to be able to attain their Common Skills grades. Yorke and Knight (2003) identified that on modular undergraduate degrees, where the student has the flexibility to choose from a selection of modules, it is difficult to ensure that across their complete programme all skills areas are covered. This has not been the case with the Building HND/Cs as they have been structured to meet the requirements of the professional bodies, mainly the Chartered Institute of Building (CIOB). The CIOB are very prescriptive in what modules they require the HND/C to be compiled of and therefore the students have limited choice within the programme structure. What this does allow is for the Programme Team to develop the modules required by the professional bodies, within the BTEC framework and then to consider the individual module within a programme context.

The Structure of the HND/Cs in Building

A BTEC HND award comprises of 16 modules, the CIOB require 18 modules to attain ICIOB and 10 modules for ACIOB and the LJMU module framework requires 20 modules for the award. The structure of the HND programme was devised to try and take into account all these factors and still remain a flexible option for students who want to progress onto Degree programmes offered within the Built Environment, for example Building Surveying, Construction Management or Quantity Surveying.

There are 6 core modules within the programmes that are shared with the HND/C Civil Engineering, meeting the BTEC national requirement. These are:

Level 1	Design Principles and Application Science and Materials Analytical Methods Management Principles and Application
Level 2	Group Project Health and Safety

The difference in the number of modules between the LJMU award and the BTEC National award was met by introducing at Level 1, 4 study skills modules. These were developed to concentrate on skills development to help students perform in the core subject modules at Level 1. Abramson and Jones (2001) identified the need for skills modules at Level 1 of undergraduate programmes to help improve retention of students new to HE. The Programme Team concur with this view and see these study skills modules not only developing the students ability to perform in their core modules but also as a support mechanism to students new to HE and Liverpool. It is also hoped at improving first year retention and progression.

At Level 2 on the programmes the students have a choice in their module selection. They can either choose the Building Production Technology Route or the Building Surveying route. The difference is two modules, one each semester, and the decision is based on what career area the student wants to enter. For example, a career in Construction Management would require the HND/C in Building Production Technology as it has the required subject modules for ACIOB and also for progression onto the degree route. The complete diet of modules within the HND/C programmes is shown in Tables 2 and 3 with the audit results.

The Skills-Plus Audit – 39 Aspects of Employability

All modules within the HND/C programmes were audited against the 39 Employability aspects identified in the Skills-Plus Project using the elaborative comments in Knight and Yorke (2002a, p.16). The following areas were also considered when reaching a decision:

- The Common Skills area and their competencies identified in each module for the BTEC award
- The learning activities of the module
- The assessment methods

Tables 2 and 3 show the results of the audit.

ANALYSIS OF FINDINGS

The audit results show that the majority of the employability skills are well covered within the programmes and this is probably due to the application of the BTEC Common Skills. The following are the areas that are not well covered, or not at all within the programmes:

- **Malleable self-theory**
This element is difficult to introduce because of the prescriptive nature of the programme and because of the level of the programme. The attribute of enquiring and questioning systems, theories, etc is within Level 2 of the Programme but it is a skill developed with experience and knowledge and would be hoped to be clearly evident in Level 3 of an undergraduate degree programme.
- **Emotional Intelligence**
This is a difficult skill to assess and it has been attributed to those modules with group-based assessments. Through working and being assessed in groups students should learn how to work together and appreciate people are different, hopefully developing their senses to their own emotions and others.
- **Language Skills**
This skill has been taken to mean developing a 'foreign' language, (a language other than English). Unfortunately it is not possible to offer options in a 'foreign' language due to the prescriptive requirements of the programmes.
- **Global Awareness**
This element is addressed in the subject content of certain modules, for example Management Principles and Applications at Level 1, but it has only been audited as applying to two Level 2 modules where it is also assessed. This is an area that needs to be improved as the Construction Industry is becoming more global.
- **Ability to Work Cross-Culturally**
This skill has been considered in relation to ethnicity issues within the UK with regards to the cultural diversity of the students within the programme and as such it is an area that is

lacking. The programme, as with the Construction Industry, has a very low intake of ethnic minorities and as such the students do not get the chance to learn, at first hand, the differences between cultures. The cultural issue is only addressed from an industry resource and legal issue. This is an area that needs to be considered more carefully within the programme.

- **Acting Morally**

This area has been considered with regards to the wider issues that are within the module content and are also assessed, for example in Health and Safety and the Environment. It has not been considered as a personal quality.

- **Influencing and Arguing for &/or Justifying a Point of View**

These two skills have been considered together as the results are very similar. Both are more concerned at Level 2 of the programme as they have been viewed as a 'higher' skill, or a skill that can be developed through having developed the skills in communicating. Again, the modules indicated with this skill have considered content and assessment, for example in Law and Contract a presentation in the form of an argument forms part of the assessment and all students are involved.

- **Resolve Conflict and Negotiating**

These skills have been considered together as the analysis was the same in that the 'actual' process skill rather than the 'theoretical' understanding was applied. Both modules indicated rely heavily on group working to achieve the aims of the assessment, for example the site surveying fieldcourse, and if there is a problem within the groups the students are encouraged to resolve the issues themselves before using the lecturing staff. The students are also given the assessment tasks and they negotiate amongst themselves who is responsible for what task and agree their own work patterns and deadlines.

Summary

The audit has shown that overall the programme covers most of the 39 skills-plus factors well. This can be attributed to the modules being developed firstly as individual modules with the relevant common skills and secondly the common skills are assessed across the programmes to allow the students to gain their award. The audit also showed that at level 1 the study skills modules introduced a lot of personal skills, such as self-confidence, adaptability, stress tolerance, willingness to learn and reflectiveness. It is hoped that these would help the students to develop and improve both the required skills for the academic side of a University and also the personal

skills for adjusting to new living and working environments. It is also hoped that this will help improve retention of the first year full-time students.

The mix of assessment, using group projects, individual assessments both summative and formative and the mix of modules; technical, mathematical, science and management based also allows for a good mix of skills to be introduced and developed within the programmes. Certain modules within the programmes also use the RAPID skills package (<http://rapid.lboro.ac.uk/>) which reinforces the skills element on the programme. The main benefit of using this package is that it allows the student to be reflective in both their overall learning experience and within the specific modules skills area.

Overall, the Programme Team have been pleased with the results of the audit as there are few large 'gaps' in the skills areas offered on the programme. An overall good grounding on these skills are within the programme and these skills will only be reinforced and developed further within the workplace or further study. The audit has also highlighted the areas that can be improved within the programmes and this will feed into future programme reviews. This is a useful and relatively quick exercise that can be carried out by all Programme Teams when looking to review the content and structure of their programmes.

From a personal viewpoint, I have found the process very enlightening and it has highlighted areas that can be improved on and hopefully introduced into the programme to improve the students experience and their employability.

References

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Table 1: Common Skills and Competences

Common Skill	Competences
<i>Managing and developing self</i>	Manage own roles and responsibilities Manage own time in achieving objectives Undertake personal and career development Transfer skills gained to new and changing situations and contexts
<i>Working with and relating to others</i>	Treat others' values, beliefs and opinions with respect Relate to and interact effectively with individuals and groups Work effectively as a member of a team
<i>Communicating</i>	Receive and respond to a variety of information Present information in a variety of visual forms Communicate in writing Participate in oral and non-verbal communication
<i>Managing tasks and solving problems</i>	Use information services Deal with a combination of routine and non-routine tasks Identify and solve routine and non-routine problems
<i>Applying numeracy</i>	Apply numerical skills and techniques
<i>Applying technology</i>	Use a range of technological equipment and systems
<i>Applying design and develop creativity</i>	Apply a range of skills and techniques to a variety of ideas in the creation of new modified products, services or situations Use a range of thought processes

Table 2: Level 1 Skills Audit

	Fundamentals of Maths & Science A	Fundamentals of Maths & Science B	Study Skills C - Communications	Study Skills D - IT	Design Principles & Application	Science & Materials	Analytical Methods	Management Principles & Application	Site Surveying Procedures	Technology A
1 Malleable self-theory										
2 Self-awareness			X					X		
3 Self-confidence	X	X	X	X	X			X	X	
4 Independence					X				X	
5 Emotional Intelligence			X						X	
6 Adaptability	X	X	X	X	X			X	X	X
7 Stress tolerance	X	X				X	X			X
8 Initiative					X	X		X	X	X
9 Willingness to learn	X	X	X	X	X				X	X
10 Reflectiveness	X	X	X	X				X		
11 Reading Effectiveness	X	X			X	X	X	X	X	X
12 Numeracy	X	X		X	X	X	X		X	
13 Information retrieval			X		X	X		X		X
14 Language skills										
15 Self-management	X	X	X	X	X	X	X	X	X	X
16 Critical analysis	X	X			X	X	X	X		X
17 Creativity			X		X			X		X
18 Listening					X	X	X	X	X	X
19 Written Communications	X	X	X		X	X		X		X
20 Oral Presentation			X					X		
21 Explaining	X	X	X		X	X		X		X
22 Global awareness										
23 Computer literacy			X	X				X	X	
24 Commercial awareness					X			X		
25 Political sensitivity					X			X		
26 Ability to work cross-culturally								X		
27 Ethical sensitivity								X		
28 Prioritising	X	X		X	X	X	X		X	X
29 Planning			X		X			X	X	
30 Applying subject understanding					X	X	X	X	X	X
31 Acting morally										
32 Coping with ambiguity & complexity	X	X			X	X	X			X
33 Problem solving	X	X			X	X	X		X	X
34 Influencing									X	
35 Arguing for &/or justifying a point of view										
36 Resolve conflict									X	
37 Decision making									X	
38 Negotiating									X	
39 Team work			X			X		X	X	

Table 3: Level 2 Skills Audit

Building Production
Technology Route Modules

Building Surveying
Route Modules

	Group Project	Health Safety & Welfare	Technology B	Building Services Engineering	Construction Economics	Production Management	Tendering and Estimating		Environment	Structural Behaviour & Detailing	Design	Refurbishment & Adaptation
1 Malleable self-theory									X			
2 Self-awareness	X											
3 Self-confidence	X											
4 Independence	X		X					X	X			X
5 Emotional Intelligence	X											X
6 Adaptability	X		X	X					X			
7 Stress tolerance		X	X		X	X	X	X		X		
8 Initiative	X	X		X				X	X			X
9 Willingness to learn				X								X
10 Reflectiveness	X											
11 Reading Effectiveness	X	X	X	X	X	X	X	X	X	X	X	X
12 Numeracy	X					X	X		X	X		
13 Information retrieval	X	X	X	X	X	X	X	X	X		X	X
14 Language skills												
15 Self-management	X	X	X	X		X		X	X	X	X	X
16 Critical analysis		X	X	X	X	X		X	X		X	
17 Creativity	X		X	X								X
18 Listening		X	X	X	X	X	X	X	X		X	
19 Written Communications	X	X	X	X	X	X	X	X	X	X	X	X
20 Oral Presentation	X					X						X
21 Explaining	X	X	X	X	X	X	X		X		X	X
22 Global awareness			X						X		X	
23 Computer literacy	X					X				X	X	
24 Commercial awareness		X			X	X		X			X	X
25 Political sensitivity		X			X	X		X	X		X	
26 Ability to work cross-culturally											X	
27 Ethical sensitivity		X				X						
28 Prioritising	X	X				X	X			X	X	X
29 Planning	X	X		X		X	X		X			X
30 Applying subject understanding	X	X	X	X	X	X	X	X	X	X	X	X
31 Acting morally		X						X	X		X	
32 Coping with ambiguity & complexity		X		X						X		X
33 Problem solving	X		X	X		X	X		X	X		X
34 Influencing	X							X				X
35 Arguing for &/or justifying a point of view	X				X			X				
36 Resolve conflict	X											X
37 Decision making	X					X			X	X	X	X
38 Negotiating	X											X
39 Team work	X					X			X	X		X