



UK building surveying education: the graduates' view

Mike Hoxley

*School of Architecture, Design and the Built Environment,
Nottingham Trent University, Nottingham, UK*

Abstract

Purpose – Many facilities management professionals originally graduated from a building surveying course. The high referral rate of the professional body pre-qualification assessment process for building surveyors and other criticisms of graduates have led many to question whether building surveying education is fit for purpose. This paper seeks to address these issues.

Design/methodology/approach – Previous research on this subject has concentrated on obtaining the views of course providers and employers. The approach adopted for this study has been an on-line survey of recent UK building surveying graduates. A 30 per cent response rate resulted in 806 graduates undertaking the survey.

Findings – Most graduates had studied a full-time undergraduate course, three-quarters had gained some form of placement or work-experience during their studies, the mode of the year of graduation was 2004 and 65 per cent of the sample work in private practice. The survey reveals concerns over non-coverage of some of the professional body's pre-qualification competencies. The most useful subjects studied by graduates were construction technology and building pathology and the least useful was economics. The top two omitted subjects from courses were contract administration and dilapidations – both core areas of work. Skills development was weaker on postgraduate than undergraduate courses.

Practical implications – Those designing HE building surveying courses can refer to the results of this study to ensure that their curricula remain relevant and current to the needs of industry.

Originality/value – This study into building surveying education has been undertaken at a time when many UK universities are reviewing their course provision to ensure that they are well placed to survive the massive upheaval imposed by government funding cuts and changes in student finance. This study with its large sample size will be of assistance to those reviewing building surveying courses.

Keywords Building surveying, Curricula, Education, Graduates, Quality, United Kingdom

Paper type Research paper

1. Background

The UK built environment professional bodies, such as RICS, CIBSE and CIOB, have acknowledged the importance of facilities management and have formed facility management sub-groups. There are 12,000 members of the Royal Institution of Chartered Surveyors (RICS) who list Facilities Management (FM) as their primary or secondary discipline (RICS, 2010). In order to support this significant proportion of its membership RICS recently launched a "Professionalising FM" campaign. The aim of the campaign was to identify ways in which FM professionals can develop the strategic management skills that increase their individual value and in turn help build corporate

The author gratefully acknowledges the assistance provided by RICS Education in providing contact details of recent graduates and the contribution of three members of the RICS Building Surveying Professional Group for their input into the design of the main research instrument.



value for their businesses and customers. In addition to being members of the RICS facilities management professional group, many RICS qualified FM professionals are also members of the building surveying group and indeed many of them gained their original academic qualification in building surveying (BS). This paper considers the current state of BS education and presents the findings of a web-based survey of over 800 graduates of undergraduate and postgraduate courses in building surveying.

Within a generation the profession of building surveying has grown from an off-shoot of general practice surveying to a professional group of 28,000 members worldwide – growth that has been described as “rapid and spectacular [and one] that pays tribute to the increasing importance of the building surveyor role” (Sayce, 2010). There are currently about 8,000 Chartered Building Surveyors working in the UK and another 700 working overseas – although nearly half of these are based in Hong Kong (RICS, 2011). There are 27 RICS-accredited BS degree courses in the UK and approximately one-third of graduates applying for BS posts are from postgraduate courses (Gough, 2010). In addition to an RICS accredited degree, Chartered Surveyors are required to pass the Assessment of Professional Competence (APC) which involves a minimum of two years approved professional training and a final professional interview with two or three assessors who are BS practitioners (RICS, 2006). The first time referral rate for the BS pathway is typically 50 per cent, which is higher than for other professional groups. Sayce (2010) suggests that the technical nature of building surveying is the likely reason that APC candidates lack the depth of experience required after two years in the workplace.

The high APC referral rate and general disquiet about the content of academic courses has led many in the profession to question whether BS education is fit for purpose. In a study of large BS employers five years ago, Hoxley and Wilkinson (2006) found that there was a concern about the level of construction technology knowledge of BS graduates, and that in teaching contract administration to building surveyors, relevant contracts should be used (principally minor works and intermediate forms). The RICS HE Policy Manager for Education and Qualifications Standards, Nick Evans has recently commented that there has been criticism of HE’s role in supporting professional practice – principally over the quality of graduates (Evans, 2010).

As the UK comes out of economic recession there are fears that there will be a shortage in the supply of construction professionals including building surveyors. There were skills shortages following the last two recessions and fewer graduate places are being offered by BS firms, because of the decline in activity. Sayce reports that the first generation of building surveyors is nearing retirement and there are concerns about the supply of graduates and recently qualified surveyors to replace them. Between 2007 and 2009 BS APC enrolments fell by over 50 per cent (Sayce, 2010). In the previous two recessions enrolments onto HE courses in building surveying fell drastically as the number of graduate opportunities diminished although there was a lag of several years between what happened in the jobs market and enrolment onto HE courses. This time around there is the added complication of HE applicants rushing to beat the 2012 increase in tuition fees (Brown, 2010) so that numbers on BS courses are likely to remain buoyant for the time being. After 2011, however there may well be a significant decline in applications for HE courses in building surveying. This is a worrying scenario given forecasts from Construction Skills and Asset Skills that there is a long term need for surveyors and other built environment professionals.

As the financial implications of the Browne Report (Brown, 2010) become clearer, many universities are undertaking reviews across departments, programmes and

within courses to ensure that their future offerings will enable them to survive. Given the huge upheaval predicted for the HE sector and industry concerns about the quality of BS education, now would seem an opportune moment to consider the content and delivery of building surveying courses.

2. What does RICS-accreditation mean?

The oversight of surveying academic programmes of study by the professional body has undergone change in the last decade. An accreditation visit, every five years or so, has been replaced by an annual partnership meeting. Whereas the visit would typically last a couple of days the meeting is usually over within a few hours. Employers sit on the partnership committees and any new programmes, or changes to programmes, are considered by the committees. However, time pressures usually ensure minimal consideration and discussion of any changes of curricular. Of course universities have their own rigorous validation and review procedures and employers participate in these processes but the reality is that the oversight of curricular of surveying programmes of study has become “lighter touch” with the move to partnership meetings. It is therefore incumbent upon individual course providers to ensure that their curricular are current and relevant.

RICS do publish guidance on what should be included in courses. For many years a document written by Professor Trevor Mole was the point of reference for building surveying courses (Mole, 1997). This document known throughout the profession as “Mind the Gap” suggested that any profession is concerned, ultimately, with the way its members operate in practice and the skills, knowledge and competencies they have. The work was heavily influenced by the work of Eraut (1994) who suggested that the abilities of each professional depend on the particular knowledge and skills of each, as derived from their educational and practice background. Eraut (1994) considers this to be a mix of the following:

- propositional knowledge;
- personal knowledge, impressions and experiences;
- professional knowledge referred to as “process knowledge”, which is based upon professional experience and action; and
- moral or ethical principles.

Mole’s (1997) contribution has been replaced by *Keep Learning: A Framework for Building Surveyors* (RICS, 2009). This document includes much of the philosophical discussion of the earlier “Mind the gap” paper (Mole, 1997) and when considering BS courses suggests that typical modules are:

- construction technology;
- law and responsibility;
- economics and finance;
- building pathology;
- planning and design;
- environmental science; and
- management.

Murray (2010) writing in a special edition of the *RICS Building Surveying Journal* devoted to education and training suggests that the core subjects to be covered should be:

- building pathology (in both traditional and modern methods of construction);
- environmental and material sciences;
- construction technology; and
- the law of contract, tort, property, and landlord and tenant.

He goes on to say that Universities could offer separate “electives” in curtain walling, cladding systems, building contracts options, contract administration, etc.

The general advice that RICS gives all universities offering programmes of study in surveying is that the APC competencies and particularly the “core” competencies (see section 4) should be covered by the course. Obviously, in some cases this may involve teaching the knowledge that these competencies require even if the skills elements will be delivered as part of the later professional training.

It is well known throughout industry that different building surveying courses have different flavours and indeed some employers make a point of only appointing graduates from one or two particular universities each year. Thus each BS programme of study will be different but what is important, of course, is that each one delivers the core subject knowledge and understanding to prepare graduates for the workplace.

3. Assessing the quality of education

In the UK, the Higher Education Council for England uses an independent national student and graduate survey (HEFCE, 2011) as one of the proxies of quality. As far as surveying is concerned, Lee and Hogg (2010) took a similar approach when considering the education and training of the quantity surveying (QS) profession. They report the outcomes of a survey of 425 early career Qs to rate their own degree of confidence with performing a number of standard QS tasks. Poon *et al.* (2010) took a similar approach in their study of UK real estate graduate competences. In their study of previous RICS education reform on the BS profession, Wilkinson and Hoxley (2005) surveyed course providers and large employers (Hoxley and Wilkinson, 2006) but the individuals who are likely to have the most clearly focused views about education are those who have recently experienced it and who are now working in the industry. A decision was taken, therefore to carry out a survey of BS graduates.

4. The survey

RICS Education provided the names and e-mail addresses of current and recent APC candidates for the building surveying route (the “sampling frame”). In conjunction with the RICS BS Professional Group Board an online questionnaire on BS education was developed. Initially, the objective was to see how graduates perceived that the course they had studied prepared them for the BS APC competencies. For each APC pathway the competencies are divided into mandatory (that are common across all of the surveying disciplines) core and optional. One would expect all of the mandatory and core competencies to be covered to some degree by BS courses and some but probably not all of the optional competencies. The following is a list of all of the BS APC competencies (RICS, 2006):

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- (1) Mandatory competencies:
 - data management;
 - conflict avoidance, management and dispute resolution procedure;
 - client care;
 - sustainability;
 - health and safety;
 - business planning;
 - accounting principles and procedures;
 - teamworking;
 - communication and negotiation; and
 - conduct rules, ethics and professional practice.
- (2) Core competencies:
 - building pathology;
 - construction technology and environmental services;
 - contract administration;
 - design and specification;
 - inspection; and
 - legal/regulatory compliance.
- (3) Optional competencies:
 - analysis of client requirements;
 - commercial management of construction;
 - conservation and restoration;
 - contract practice;
 - design economics and cost planning;
 - development/project briefs;
 - fire safety;
 - housing maintenance or maintenance management;
 - insurance;
 - measurement of land and property;
 - project financial control and reporting;
 - quantification and costing of construction works;
 - risk management; and
 - works progress and quality management.

In addition to assessing confidence with APC competencies the original questionnaire asked graduates what the most and least useful subjects they studied were, if any subject had proved of no use to them so far in their careers as well as questions about the acquisition of knowledge and skills and their preferred methods of learning, teaching and assessment. Generally, the questions employed five-point Likert attitude scales with responses ranging from “strongly agree” to “strongly disagree” but there were also free

text sections for graduates to comment (for example in the section asking what if any subject the respondent thought they should have studied but did not). There were also questions to determine independent variables such as the level of course graduates had studied, their study mode and year of graduation. Following a pilot study with the author's academic building surveying colleagues the questionnaire was passed to three members of the RICS BS Professional Group Board (including the Chair and University Representative) for their views. Following this consultation an additional question was included to assess graduates' confidence in undertaking several standard BS activities. The final questionnaire can be seen in the Appendix to this paper.

On 3 August 2010, 2,910 e-mails were sent to the sampling frame with an invitation to complete the survey via Survey Monkey. Of the e-mails, 226 were undelivered for one reason or another, and by mid-October 2010, 806 responses had been received, which represents an overall response rate of exactly 30 per cent. This is a very good response for this type of survey (Hoxley, 2008, p. 126). In their on-line survey of quantity surveyors, Lee and Hogg (2010) received a response rate of less than 10 per cent. Attention to detail in the design of research instruments is critical in ensuring an adequate sample size. For example, in this study, several hours effort was expended to ensure that each of the nearly 3,000 e-mails was personally addressed to the first name of the recipient.

5. Findings

The sample of graduates included 650 who had studied an undergraduate qualification (and 97 per cent of these had a degree) while 129 had studied either a Masters or a Graduate Diploma. Just under two-thirds had studied full-time, 20 per cent part-time and just under 8 per cent by distance learning. A total of 614 (76 per cent) had undertaken some form of placement or work-experience during their studies. The mode of the year of graduation was 2004 and the mode of the year of qualification as a chartered surveyor was 2007. The mean time since graduation was seven years for UGs and five years for PGs. Of the graduates, 130 work in the public sector, while the majority (65 per cent) work in private-practice. The graduates were asked to indicate their main industrial activity and as will be seen from Figure 1, the vast majority (nearly 86 per cent) were almost equally divided

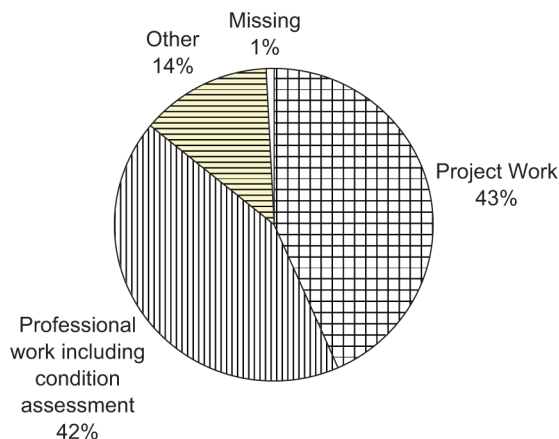


Figure 1.
How would you describe
the main type of work you
currently undertake?

into those undertaking professional work, including condition assessment and those undertaking project work.

In interpreting the results, the “acceptable” threshold of the aggregate view of all the attitude scale questions was taken as “3”, that is the neutral response. Above that level the aggregate view was positive and below that level, negative. In determining differences of emphasis between undergraduate and postgraduate responses the non-parametric Mann-Whitney U-test was used and the test was conducted at a 1 per cent probability level (Dancey and Reidy, 2007).

APC competencies

Figure 2 indicates the aggregate response (i.e. means of each variable) for the mandatory competencies of the APC. The variables are ordered (from left to right) by value of their means and as will be seen “teamworking” was the area most covered by courses – a clear indication of the success of group project work. Only half of these competencies were above the neutral response level and the areas where there is cause for concern are with the coverage of ethics, conflict avoidance, business planning, accounting and client care.

On a more positive note all of the core competencies are adequately covered by courses but of the optional APC competencies, insurance, risk management, work progress monitoring, financial control and commercial management of projects had means below the neutral response.

Preparation for undertaking common tasks

The highest ranked variables in this question were understanding building structures, building defect diagnosis, condition surveys and maintenance scheduling. However,

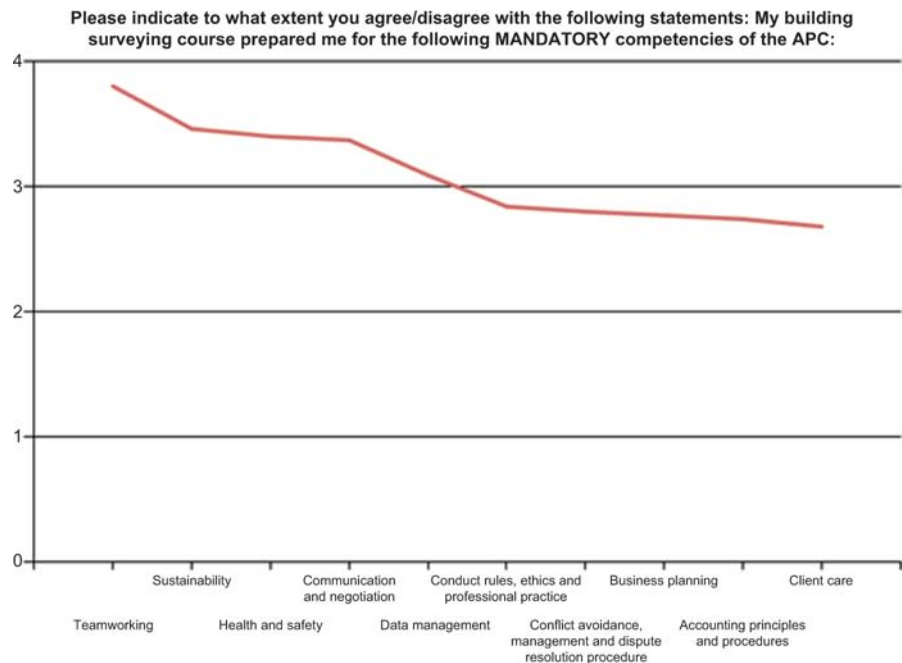


Figure 2.
Course preparation for mandatory competencies of RICS BS APC

graduates felt less than prepared to carry out work involving insurance, dilapidations, submitting statutory control applications and design and tendering for small building projects. This result has similar themes to the responses to the question about what graduates should have studied but did not. The top two responses were contract administration (132) and dilapidations (112). These two activities are core BS work and should be adequately taught on all BS courses.

The curricular

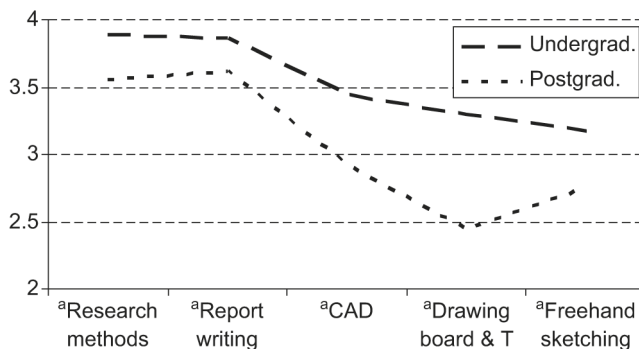
Table I lists the top six responses to the questions about the most useful and least useful subjects on their courses. Those designing programmes of study are advised to take these responses into account when deciding upon the curricular of their courses. Clearly, there are mixed messages (for example the fact that law appears in both lists) but the over-riding importance of building pathology and construction technology and the apparent irrelevance of economics cannot be ignored.

Skills' development

In the questions about skills' development and learning, teaching and assessment the aggregate responses were all above the neutral benchmark level. However, when the responses were separated by level of course studied there were interesting differences revealed in the skills' question. Figure 3 indicates the differences between the aggregate undergraduate response and that of those who studied a postgraduate programme of study for this question. As will be seen, UGs are much more confident than PGs in this area of their studies and indeed all of the drawing skills on the PG response fall below the "3" acceptable response. The likely reason for this result is related to the length of the respective courses. Whereas there is time to develop these

| Most useful subject studied | n | Least useful subject studied | n |
|------------------------------|-----|------------------------------|-----|
| Building pathology | 281 | Economics | 170 |
| Construction technology | 231 | Law | 44 |
| Law | 83 | Management | 36 |
| Design | 30 | Facilities management | 33 |
| Contract administration | 29 | Structures | 26 |
| Professional practice module | 21 | Statistics | 25 |

Table I.
Most useful and least
useful subjects studied



Note: ^aIndicates a significant difference at a 1% probability level

Figure 3.
A comparison of UG and
PG graduates' perception
of skills acquisition from
their course

skills during a three- or four-year undergraduate course there is far less time available to do this during a 12-month fast-track conversion course. This is an issue that should be addressed by postgraduate course providers, particularly as the proportion of PG to UG students shows signs of increasing (Gough, 2010).

6. Conclusions and recommendations

At the time of writing this paper there are rumours circulating throughout the surveying education community that the RICS is planning to remove the requirement for trainees to have studied an accredited degree. They would instead be able to complete any undergraduate degree and then train with a surveyor for five years. Clearly, this proposal, should it be made, will be in response to fears about the number of students opting to study surveying at university once there has been a significant rise in tuition fees. This additional competition for surveying course providers is even more reason for them to ensure that their curricular are current and relevant. The results of the survey reported in this paper suggest that of the mandatory competencies of the APC, ethics, conflict avoidance, business planning, accounting and client care could be better covered on building surveying courses. Core competencies are adequately covered but a high proportion of respondents believed that they should have studied (and didn't) contract administration and dilapidations. Both of these subjects are central to the work of building surveyors and it is essential that they are adequately taught on BS courses. The optional APC competencies of insurance, risk management, work progress monitoring, financial control and commercial management of projects could be better covered on courses.

Graduates feel less than prepared to undertake the following types of work: insurance, dilapidations, submitting statutory control applications and design and tendering for small building projects. Clearly, this finding does not throw a positive light on the education that these graduates have received. Construction technology and building pathology are the most useful subjects studied while economics appears to be the least useful. Although only 16 per cent of the respondents studied a PG programme there are some interesting differences of confidence revealed, particularly in the area of skills development.

The shortcomings revealed by this survey should be addressed in future building surveying course designs/reviews. This mainly involves strengthening courses by ensuring adequate technical content and including core subjects such as contract administration and dilapidations. Each of these subjects is core to the work undertaken as part of the two facets of building surveying— project work and condition assessment. As evidenced by Figure 1, building surveying is a very broad subject and in the author's view the only way to adequately address the issue of the high referral rate in the APC is to give consideration to allowing BSs to specialise (in professional work including condition assessment OR project work) prior to the APC final assessment. Naturally, the profession has reservations about such a development but unless the issue of the high referral rate is addressed, potential BSs will be dissuaded from entering the profession in the first place.

At the end of the questionnaire the graduates were asked if they had any additional comments about building surveying education. Two typical comments about the education they received were: "very out of touch with the industry itself" and "I left university feeling disheartened and unprepared for my day to day job". Overall, there

were more negative than positive comments and if the concerns revealed by this study are to be addressed then course designers and reviewers should concentrate on delivering the core technical subjects that are so clearly valued by graduates.

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Further reading

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Page 1

Building Surveying Education Survey

1. Important notes

The aim of this study is to obtain the views of those graduating from building surveying (BS) education within the last few years, on how effective their courses were in preparing them for the profession. An important objective is to make recommendations for the improvement of such courses which will be of benefit to the entire profession.

The results of this survey will be disseminated widely to providers of building surveying courses to improve the relevance of such programmes.

The research is being carried out with support from RICS Education and the Building Surveying Professional Group of the RICS.

Participation in the survey is voluntary and your responses will be kept confidential and anonymous. Data obtained from this study will be used for research purposes only.

If you have any questions about the questionnaire or study, please feel free to contact the principal researcher of this project, Professor Mike Hoxley (mike.hoxley@ntu.ac.uk)

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2. Respondent information

Type of building surveying course completed:

- Undergraduate degree
- Undergraduate diploma
- Graduate diploma
- Masters degree
- Other (please specify)

How did you study your building surveying course?

- Full-time
- Part-time
- Distance learning
- Mixture of above (please explain)

What industrial placement/work experience in the profession did you gain while studying?

(Continued)

Figure A1.

- Industrial placement/sandwich year
- Worked in the profession during the course
- Worked in the profession during recesses
- Did not seek industrial placement or work experience
- Unable to gain industrial placement or work experience

In which year did you complete your building surveying course?

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In which country did you undertake your course?

- United Kingdom
- Other (please specify)

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How would you describe the main type of work that you currently undertake?

- Professional work including condition assessment
- Project work
- Other (please specify)

What type of organisation do you work in?

- Public sector (local or central government)
- Multi-disciplinary private practice
- Building surveying private practice
- Contractor
- Non-property commercial organisation
- Not currently employed
- Other (please specify)

If you are a Chartered Surveyor please indicate in which year you gained professional membership

In sections 3 – 5 of the questionnaire, respondents were asked to indicate their level of agreement with the statements below. The responses were: 'Strongly agree'; 'Agree'; 'Neutral'; 'Disagree'; 'Strongly disagree'.

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3. APC Competencies

The following questions are about how your building surveying course prepared you for the current RICS Assessment of Professional Competence (APC). Of course it is recognised that work experience and structured training are also critical to the APC but please try and focus on the course that you studied when you answer these questions. In this context 'prepared' means that your course gave you a basic level of knowledge and understanding.

(Continued)

Figure A1.

Please indicate to what extent you agree/disagree with the following statements:

My building surveying course prepared me for the following MANDATORY competencies of the APC:

- Data management
- Conflict avoidance, management and dispute resolution procedure
- Client care
- Sustainability
- Health and safety
- Business planning
- Accounting principles and procedures
- Teamworking
- Communication and negotiation
- Conduct rules, ethics and professional practice

My building surveying course prepared me for the following CORE competencies of the APC:

- Building pathology
- Construction technology and environmental services
- Contract administration
- Design and specification
- Inspection
- Legal/regulatory compliance

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My building surveying course prepared me for the following OPTIONAL competencies of the APC:

- Analysis of client requirements
- Commercial management of construction
- Conservation and restoration
- Contract practice
- Design economics and cost planning
- Development/project briefs
- Fire safety
- Housing maintenance or maintenance management
- Insurance
- Measurement of land and property
- Project financial control and reporting
- Quantification and costing of construction works
- Risk management
- Works progress and quality management

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Figure A1.

4. Knowledge

(Continued)

The following questions are about some specific subjects or modules you may have studied as part of your building surveying course.

Please indicate to what extent you agree/disagree with the following statements:

The following subjects/modules have proven to be useful to me in my career so far:

- Construction technology
- Law
- Economics
- Management
- Undertaking a research project or dissertation

What do you think was the MOST useful subject you studied as part of your building surveying course?

What do you think was the LEAST useful subject you studied as part of your building surveying course?

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Please indicate to what extent you agree/disagree with the following statements:

My building surveying course prepared me to undertake the following types of work:

- preparing schedules of dilapidations
- preparing and submitting planning applications
- preparing and submitting building control applications
- preparing budgets for small building projects
- design and tenders for small building projects
- contract administration
- interfacing own involvement on projects with other professionals (e.g. structural engineer)
- understanding of building structures
- building defect diagnosis
- inspecting and preparing condition surveys
- inspecting and preparing maintenance schedules
- insurance of property and building projects

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5. Skills

(Continued)

Figure A1.

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The following questions are about the specific skills you acquired as a result of studying your building surveying course.

Please indicate to what extent you agree/disagree with the following statements:

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During my building surveying course I acquired the following skills:

- Freehand sketching
- Drawing with a drawing board and T-square
- Computer aided design
- Research methods
- Report writing

In addition to the 5-point Likert scale responses indicated previously, an additional response of 'Not applicable' was included in Section 6 of the questionnaire.

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6. Teaching, learning and assessment

The following questions are about how effective you found the teaching, learning and assessment strategies of your building surveying course.

Please indicate to what extent you agree/disagree with the following statements:

The following were effective in helping me to learn on my building surveying course:

- Lectures
- Seminars/tutorials
- Lab sessions
- Traditional examinations
- Individual assignments
- Group work
- Real live case study projects from industry
- Research project/dissertation
- Using a library
- Virtual learning environments (e.g. 'Blackboard')
- Use of visiting professionals from industry

Have you any comments about how your building surveying course was taught and assessed?

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7. Comments

Figure A1.

(Continued)

Was there any subject that you did not study on your building surveying course that you think you should have studied? (please elaborate)

UK building
surveying
education

Was there any subject that you studied as part of your building surveying course that has been of no use to you so far in your career? (please elaborate)

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Do you have any additional comments about building surveying education?

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8. Questionnaire complete

Thank you very much for your participation.

If you have questions about this study please feel free to contact the principal researcher, Professor Mike Hoxley (mike.hoxley@ntu.ac.uk).

If you would like to receive a summary report of this research when it is completed, please leave your contact information below.

Name:

E-mail Address:

Figure A1.

About the author

Mike Hoxley is Professor of Building Surveying at Nottingham Trent University. He has been a Chartered Building Surveyor for over 30 years. Prior to becoming an academic in 1994, Mike was an equity partner in private practice. He is a former member of the RICS Building Surveying Professional Group Board. Mike Hoxley can be contacted at: mike.hoxley@ntu.ac.uk

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