

**A study into recruitment and selection for the built environment disciplines**

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**Citation:**

LAYCOCK, Elizabeth (2015). A study into recruitment and selection for the built environment disciplines. Sheffield Hallam University Built Environment Research Transactions, 7 (1), 46-71. [Article]

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# **A STUDY INTO RECRUITMENT AND SELECTION FOR THE BUILT ENVIRONMENT DISCIPLINES.**

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Recruitment and selection is a complex process attempting to meet the future needs of a company within the current operating parameters and facilitated by human interactions. The literature studied identified no definitive description of 'employability' in the Built Environment disciplines, only a linkage between certain discrete attributes which correlate with an applicant successfully gaining employment. Certain methods of recruitment and selection target particular individual attributes, but those qualities which are valued are difficult to systematically assess, indeed methods used for graduate recruitment and selection in the Built Environment disciplines were more complex than anticipated. As graduate employees are expected to continue to be developed by the company many methods assess the graduate's potential fit into a team. A mismatch in the perception of the relative importance of skills or competencies was found between recently employed graduates and industry recruiters. Recruiters actively sought candidates who demonstrated that they had 'client readiness'. Graduates do not necessarily see that the struggle to gain employment is a consequence of the difficult economy or how they project themselves during selection. The publication of graduate employability statistics and the increased levels of student indebtedness will no doubt act to enhance the importance given to employment outcomes.

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**Key Words:** Education, Skills, Recruitment, Personnel

## **INTRODUCTION**

The subject of employability of graduates is debated currently within literature, which has highlighted differential strategies for recruitment and selection within the UK. There is general consensus that certain methods of recruitment and selection target certain individual attributes. There is evidence of a country wide shift in selection methods driven by IT facilitated communication. What is currently less well known is the means of recruitment and selection specifically used for built environment students and the underlying rationale for these. The research aim was to determine the chronological application and examine the rationale for utilisation of recruitment and selection procedures applied by a number of employers. This was achieved by outlining the requirements of graduate skills both generally and specifically in terms of the built environment disciplines. The relative importance of the skills was then examined within the context of the selection procedures, as applied to recent graduates from the perspective of both employers and graduates. This allowed the examination of the methodologies of selection and their application to the identification of a candidate's alignment to the employer's required skills, or competencies of graduates within the specified subject areas.

## **LITERATURE REVIEW**

Skills are defined by Leitch (2006:6) as "capabilities and expertise in a particular occupation or activity" which may include "literacy and numeracy ...team working or communication... or specific skills [for a particular occupation]..." One of the common measures of achievement in a skill is a qualification, but there is a growing body of research which suggests that there is a mismatch between supply and demand of skills. The UK Commission for Employment and Skills (2009) discussed many of the potential problems with meeting proposed economic performance targets for the UK by 2020 in terms of skill development and there has since been considerable debate as to whether the UK Higher Education (HE) sector equips students and graduates with the skills they need to be able to access graduate jobs. A skills mismatch has been reported by several authors, including Bellcurve (2009) using an EU labour force survey in 2008; finding that lack of match between requirements for graduate skills in the labour market was one of the main factors behind

graduate unemployment and employee dissatisfaction, particularly in the built environment disciplines.

## Overview of Graduate Key Skills

Purcell *et al.* (2012:64) suggest that recruiters continue to state that there is an inability to recruit appropriate talent in particular graduate vacancies; 54% of recruiters stated that they found it increasingly difficult to find graduates with the right skills. The Confederation of British Industry reported that half of their surveyed companies had a lack of confidence in their ability to fill graduate-level posts in the following years. Yet many graduates still report that they are unable to find graduate vacancies and thus there is a net underutilisation of skills (*ibid*:66).

The challenges in the graduate market can be summarised as follows;

- challenges of UK economic requirements (UK Commission for Employment and Skills 2009:7-9)
- changes in the undergraduate HE market leading to student led course demand (Lambert Review 2003:107),
- the requirements to meet future challenges, incorporating flexibility in workforce skills (Witt & Lill 2010),
- uncertainty related to curriculum and delivery (Pegg *et al.* 2012: 20; Tibby, 2012:3; Poon *et al.* 2011: 484; Corominas 2010:43; Newman 2009:1),
- the transition of graduates to work (Wilson Review 2012:21; Purcell *et al.* 2012:xxii; Pegg *et al.* 2012: 35; Lambert Review 2003:7),
- student expectations of the qualification as a means to work in the face of rising debt (Pegg *et al.* 2012: 6; Purcell *et al.* 2012:xviii; Confederation of British Industry 2011:7UK Commission for Employment and Skills 2009:36).

Several authors have highlighted a shift in the views of the external stakeholders including increased comparison between institutions (Howarth & Stafford 2005:3; Beer 2012:4) increased competition between Higher Education Institutes (HEIs) to engage with industry (Heesom *et al.* 2008:34) and a perception that industry needs are not met (Leitch Review 2006:11; Lambert Review 2003:7). Interpersonal effectiveness or ability of a person to work well with others is seen to be increasingly identified with graduate employment (Tomkins, 2012:1). Finally there is a difference reported in the literature as to the defining qualities of a 'graduate' in terms of the skills and abilities which they should be expected to have on

entering work and the need to have the capacity to develop these further over time.

## **The UK Construction Industry**

The Fairclough Report (2002:15) identified issues with the supply of professional skills for the built environment and that these needs for the sector had not been met. Amaratunga *et al.* (2010:31) confirmed the significant changes experienced by the UK construction industry over the past decade, with new forms of procurement, partnering arrangements, increased use of design and build with more integration between design and production, more specialisation and a new culture of health and safety and suggested that this compounds with the skills shortages of people with the necessary technical and managerial skills to work within the industry to reduce construction output. Atfield & Purcell (2010:6) found that students entering the fields of architecture, building and planning showed a strong alignment between taught subjects and long-term career plans, with vocational students looking for work earlier in their final year (*ibid*:2). Purcell *et al.* (2012:76) reported that graduates in Building would be expected to be employed primarily as 'experts' where their specialist HE knowledge was of direct use in the course of their daily work, followed by employment as a 'communicator' or finally as a 'strategist' with an evaluative or co-ordinator role. This finding is echoed in the work of Bhattacharjee *et al.* (2013) which demonstrated that construction employers valued oral and written communication of graduates. The labour market requirements of the construction industry are dynamic in nature, relating to population demographic fluctuations, and the nature of the market; the introduction of new technologies; the fragmentation of the industry and the economic recession (Amaratunga *et al.* 2010:36). In 2010/2011 the Higher Education Careers Services Unit (2012) reported that 65.90% of graduates in Architecture and Building entered employment six months after graduation, for 2011/2012 a figure of 65.6% was reported (Higher Education Careers Services Unit, 2013).

The Futuretrack Study (Purcell *et al.* 2012:141) found a correlation between student perceptions of their skills and the types of employment they wanted. In the area of Architecture, Building and Planning between Stage 3 (still at university) and Stage 4 (post-graduation) those agreeing that the skills they had on their undergraduate course had made them more employable fell by more than 10 per cent. While a vocational degree was generally of benefit in gaining employment, the advantage of this was less in those professions which had been worst hit by the recession (*ibid*:157).

According to Unistats (2014) 80% of SHU Built Environment graduates in Building Surveying (BS), Construction Project Management (CPM) and Quantity Surveying (QS) graduates were in employment in a professional or managerial job within 6 months of the completion of the course.

The Confederation of British Industry (2009:8) defined employability skills as: “a set of attributes, skills and knowledge that all labour market participants should possess to ensure that they have the capability of being effective in the workplace, to the benefit of themselves, their employer and the wider economy.” Butcher *et al.* (2011:39) state that there is a key difference between 'employability' and 'employment' and that employers need to be involved in order to make the best use of graduate talent for the benefit of students, employers and the economy. According to Higher Education Academy (2012) an accepted definition of employability is "a set of achievements, skills, understandings and personal attributes, [which] make graduates more likely to gain, implement and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy." Alternately it is seen by Pegg *et al* (2012: 5) as “... not about lists of categories of skills.. [It refers to]... ‘Skilful practices in context’... and an approach to personal development and career planning that is included within the notion of employability.”

While many of these generic graduate skills are required across the built environment subject areas, TargetJobs (2013a:33-41 and TargetJobs 2013b:22-52) identify that those graduate professional roles which fall under the category of 'Built Environment' need different skills. An employer needs to be able to select the optimum match of a candidate to meet the business needs of the organization and this has led to the development of a number of practical measures being applied, which allow value judgments to be made in the face of increased applicant numbers (Tomkins 2012:2). For recruitment to industry some form of communication of desired skills is still commonly used by companies in the information circulated to undergraduates, Such skills are given by Kibler (2013:10-11) in Table 1.

Amaratunga *et al.* (2010:34) state that employers seek individuals with both specific and generic skills. The specific skills relate to the job performed and generic skills which are essential to perform effectively and efficiently within any kind of job. KSAOs (Knowledge, Skills, Attributes and Other characteristics) are attributes and not behaviours which can be directly observed (Brannick, Cadle & Levine, 2012:122), and these are created by genetics and the environment (Ployhart, 2012:673). Human

factors outlined by Murphy (2012:31) encompass the four domains of individual differences; ability (mainly cognitive, although physical abilities are often important); personality; interests; and self-evaluations, which are established in a biological base although the reasons behind these are not always well understood.

Skill	Evidence by
Communication	Application forms and CVs. Use of positive words to highlight energy and enthusiasm during interview.
Teamwork	Demonstrate understanding of effective teamwork for example membership of society or club, previous positions of responsibility
Commercial awareness	Ability to answer questions about current industry affairs, discussions on commercial issues may occur at interview
Time management	Demonstrate that you have successfully juggled academic work, part-time employment, or society membership
Problem solving	Demonstrate the ability to adopt common sense approaches to problem solving under pressure
Enthusiasm	Demonstrate proactivity by finding practical experience and keeping up to date

*Table .1 Six essential skills for construction jobs (modified after Kibler 2013:10-11)*

There are many recent models of graduate employability which go beyond the simple listing of skills. One such model is that proposed by Hinchliffe & Jolly (2011:563), who suggest that the traditional model of graduate employability comprising skills, competence and attributes may no longer be valid as a fixed identity. They propose a four stranded concept of graduate identity comprising value, intellect, social engagement and performance and highlight that different employers will value different facets of this identity to a differential extent. They opine that a simple skills approach cannot do justice to the complexity of graduates mostly because this requires an assumption that performance is always measurable and observable. Graduate recruitment is however an exploration of current identity, with a view to judging whether a person is capable of both assuming that role and potentially being further shaped by the employer (*ibid.*:564-565). The study found that personal attributes such as honesty, integrity and trust were expected at appointment, ahead of any other skill competence. Strands of the graduate identity (value, intellect, social engagement and performance) were also considered. All graduates were expected to be able to present ideas clearly, both verbally and in writing. The ability to demonstrate cultural and social awareness were expected and may be ranked ahead of IT skills. It was also found that some employers were prepared to wait up to a year for the technical skills to develop unless

particular specialist skills were required at appointment (*ibid.* 2011:570). The expectation of employers that newly hired graduates would become self-directed learners was also found by Bhattacharjee *et al.* 2013.

A further model is the 'CareerEDGE' (Sewell & Pool, 2012: this 1) which considered Career (development, learning) Experience (work and life), Degree Subject (knowledge, skills and understanding), Generic Skills and Emotional Intelligence which all feed into a reflective and evaluative cycle which underpins their self-efficiency, self confidence and self-esteem which in turn leads to employability.

## **The Recruitment Process**

Recruitment is the process which precedes selection in which new talent is attracted to the position and then screened to determine their likely fit to the organisation. The key objective of HR is adaptation of a strategic approach to recruitment and retention of staff to produce an effective and competitive organisation (Taylor 2010:2). Obtaining information about the job requirements prior to candidate selection is a very common (perhaps universal) practice (McPhail & Jeanneret 2012:417). Ployhart & Schneider (2012:49) state that the classic model personnel selection requires the identification of KSAOs which are deemed important for effective individual job performance. These are then used in personal selection. However, job analysis using this methodology is seen as giving a relatively fixed description of the job at a particular time which may not necessarily meet future employer objectives (*ibid.*:51). Amaratunga *et al.* (2010:34 cites Gilleard 2010) that when recruiting graduates employers mainly look for a good degree; specific skills; generic transferable skills; experience; and personal attributes, whereas Hinchliffe & Jolly (2011:582) believe that "underpinning the employability specifics is the generation of evidence of a 'capability set' which is a combination of functionings."

Taylor (2010:159) states that "the terms recruitment and selection are... distinct human resource management activities" and that recruitment involving the seeking of applications from potential employees and selection of the techniques which are used to decide which of the potential candidates may be best for the job. Classic model personal selection requires the identification of KSAOs which are deemed important for effective individual job performance, these are then used in personal selection (Ployhart & Schneider, 2012:49). Analysis of the duties in a systematic way enables objective recruitment and selection to minimise the potential for subjective judgements and ensure that the selection process is fair (Taylor 2010:132). Selection processes are focused on demonstrating

the validity of the procedures which enable the identification of people with an appropriate fit to the job requirements in terms of their knowledge, skills and abilities (Ostroff & Zhan, 2012:252). Increasingly literature highlights the importance of the so-called 'soft skills' for example Benhart & Shaurette (2014) discussed the need of industry for graduates who could communicate in person, to an audience and over the telephone which are attributes difficult to assess by paper application. Job analysis using this methodology, however, is seen as giving a relatively fixed description of the job at a particular time, which may not necessarily meet future needs (Ployhart & Schneider, 2012:51).

## **The Selection Process**

The selection process follows from recruitment and is required to use a variety of methods to allow matching the requirements of the organisation, using the application processes to meet the required resource outcome (Taylor, 2010:132). McPhail & Jeanneret (2012:420) summarised a variety of variables which influence the assessment design within an organisational context as follows:-

- “business needs/objectives,
- culture/climate/values,
- mission/business strategies,
- change initiatives,
- position competencies,
- assessment history”

Personnel selection researchers use a variety of methods to assess individual difference, which invariably use several different constructs. There is significant variation in the measure and understanding of validity of methodologies such as interview, biodata, simulations and individual assessments (Schmitt & Ott-Howard 2012:944).

Assessment may be considered in order to establish the following;

- “fit job/role,
- fit with manager/executive leadership,
- fit to team/peers,
- fit to organisation (unit/whole)” (McPhail & Jeanneret 2012:417)

The status and reputation of the institution attended may alter employability by positive or negative filtering (Pegg *et al* 2012: 7). The importance of degree classification on employability was highlighted by

Purcell *et al.* (2012:28 ) who found there was a clear link between graduate employment and degree classification, with only 20% of graduates gaining a first class degree in non-graduate jobs compared with 50% those of graduates with a third class degree. The exponential expansion of web-based assessment over the past decade (Scott & Lezotte, 2012:485) allows the use of online algorithms which filter against a specified candidate description, for example rejecting all 2:2 or below degree classifications (TargetJobs 2013a:14). Both Hinchliffe & Jolly (2011:577) and Lowden *et al.* (2011:17) suggested that the main attributes and skills stressed by stakeholders included a good degree from a good university for verifying intellectual ability and quality assurance; work experience to aid realignment to their new job and in addition participating in extracurricular activities. Lowden *et al.* (2011:17) considered reflective skills of awareness of how their experience contributes to the overall learning and how these skills are transferable, where Hinchliffe & Jolly (2011:577) stress the importance of broad-based experience possessed by graduates who had made the most of all the opportunities available to them including volunteering, societies and events, which demonstrated values.

## **Research Method**

The approach to a research problem inevitably involves certain philosophical assumptions both to allow comprehension of the subject and suggest that the research is constructed in a certain way (Gill & Johnson 2010:187). The researcher is not a passive observer, but is actively responding to the stimuli and utilising their own 'social construct,' based on their own view of reality, to organise and interpret the data to produce meaning (Gill & Johnson 2010:195-198).

The research paradigm adopted was that of Realist research which accepts that an objective truth may be derived while recognising that there is a subjective influence even on knowledge collected systematically (Fisher *et al.* 2010: 17). As data would be collected from human participants by both interview and survey it was important to understand the theoretical framework and conceptual structure of the underlying research, in order to focus the questions adequately (Robson 2011:250). While the survey lent itself to non-parametric quantitative methods, qualitative methods were used on the interviews. It is recognised that while qualitative analysis gives richness and detail within the data, allowing contradictory opinions and the possibility of alternative explanations a disadvantages is that it may not be representative, that interpretation relies on the self-awareness of the

researcher, that analysis is time-consuming and risks oversimplification (Denscombe 2010: 304).

Sheffield Hallam University (SHU) Research Ethics Policy and Procedures state that research involving human participants is subject to ethical review (Sheffield Hallam University, 2013). Adherence with the SHU Ethical procedures is a pre-requisite to research dealing with human subjects and is subject to agreement by peers.

### *Aims*

To determine the chronological application and examine the rationale for utilisation of recruitment and selection procedures as applied by a number of employers, within the Built Environment subject disciplines.

### *Objectives*

- To outline the requirements of graduate skills generally and specifically in terms of the Built Environment disciplines
- To describe theories on employability and early career development
- To illustrate the selection procedures as applied to recent graduates from the perspective of both employers and graduates.
- To examine whether there is a perception of skill or competence mismatch between recent graduates and the requirements of industry and how these skills or competencies are identified/quantified during recruitment
- To evaluate emerging methodologies of selection and their application to the identification of a candidate's alignment to the employer's required skills, or competencies of graduates within the Built Environment disciplines

The adopted sampling strategy was based on a convenience sample of previous students and approaching employers known to have interviewed or selected previous SHU graduates. The research was carried out in the following stages. A focus group method was carried out with members of staff in the Built Environment Division at SHU who had an interest in recruitment and selection. This allowed the identification of key areas for exploration. A detailed literature review was carried out on graduate skills, recruitment theory, methods of recruitment and selection, assessment of hidden attributes and the links between selection methods and underlying traits and skills. The area for research was focused, and qualitative and semi quantitative questionnaires using Likert scale and open questions was devised, piloted and revised. Ethical review was then carried out and peer

reviewed. Sample frames for the graduates were established and the questionnaire was distributed. Initially social media was used to request data from graduates in an attempt to widen the sample population but this was not successful and the greatest response was from Alumni from the 3 previous years. One of the key issues encountered was in the expiry of e-mail accounts on file. Following the return of the questionnaires the resulting data was analysed using SPSS. In all there were 88 returns, 81 from SHU and 7 from other universities with respondents reflecting on 176 applications. Emerging themes were identified and a semi-structured interview schedule was created, piloted and revised and a number of recruitment specialists approached. Ultimately 11 interviews were carried out, audio recorded and transcribed where possible or extensive notes taken. Notes or transcriptions were returned to participants for review and to allow any corrections or redactions and then the data was Data analysed in Nvivo.

## **RESEARCH FINDINGS - SURVEY**

Statistical analysis showed a strong skew in respondents towards employed respondents, greater than expected based on KIS data which states that 80% of graduates would be employed within 6 months. While the sample population was drawn predominantly from 3 year of graduate students this could be expected and was seen as important in subsequent data analysis, as the experiences reflect the views of students who have ultimately been successful in the recruitment process and not the views of the students who have failed to be selected. The data suggests that respondents generally considered the process which resulted in their current appointment and up to two other assessments at which they had been rejected. Perhaps unsurprisingly the SHU alumni responses dominated the sample population and therefore data analysis focussed on these. The results are not therefore necessarily generalisable to the whole population of UK built environment graduates.

Statistical analysis isolated the following significant outcomes from the data analysis.

In terms of the value placed by certain degree disciplines on named KSAOs;

- QS (Quantity Surveyors) value numeracy, customer care/business focus and time/self-management more than both Building Surveyors (BS) and Construction (Project) Managers (CPM),

- BS and CM value creativity and resilience more than QS,
- BS place higher value on specialist IT skills than CPM or QS,
- CPM place higher value on leadership than BS or QS.

Graduates highlighted the following aspects as being perceived to be key to gaining graduate employment:

- Fit within the company,
- Having a positive attitude,
- Writing skills,
- Having contacts,
- Qualifications,
- Experience,
- University they graduated from,
- Professional body recognition,
- Application of course skills.

Statistical analysis highlighted significant differences within graduate perceptions for the listed KSAOs (see Table 2)

<b>KSAOs given statistically significant lower values</b>	<b>KSAOs given statistically significant higher values</b>
creativity	achievement
customer care	analytical skills
emotional intelligence	business focus
enterprise	communication
leadership	planning
specialist IT skill	team skills
	time management

*Table 2 Differences in perception of graduates to listed KSAOs*

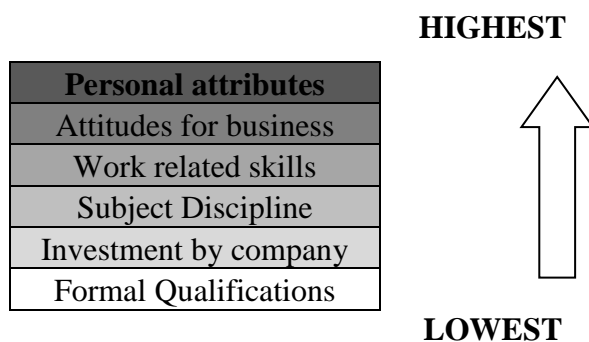
The findings demonstrate that graduates recognise the benefits of their own qualification classification, their work experience history, the links that their institution has with industry on a formal basis, and the importance of their extracurricular activities.

Additionally graduates identified the following in open questions:

- The alignment of personal skills and values to the business,
- Confidence,
- Flexibility,
- Use of initiative.

## RESEARCH FINDINGS - INTERVIEW

Detailed interviews were carried out in person with 8 individuals involved in recruitment and selection of built environment graduates, and additional interviews by electronic means brought the total to 11. All transcripts were returned to participants for verification and then responses were coded within NVIVO to create categorised nodes. Ranking these according to the number of sources highlighted within each node, the number of coding references and the number of words was used to give a measure of relative importance, verified by analysis of the textural content as shown in Figure 1.



*Figure 1 Final ranking of categories of skills and attributes which are considered most important during selection*

### *Personal attributes*

Communication skills have been considered to be a combination of personal attributes. However recruiters also considered under 'work related skills' some aspects of communication as evidenced by formal qualifications. There is also a strong correlation with personal attributes which are seen as beneficial to the business (flexibility, adaptability, problem solving, results orientation); with integration (personality, fit); and performance (time management, confidence). The personal attribute which did not appear to have a direct link to other aspects was differentiation – the attributes that made a graduate 'stand out' and explained their decision making process, demonstrating what they could bring to the future role. Recruiters wanted the graduates to demonstrate this from past experience. One interviewee stated that they considered that "A bright, chirpy and cheerful demeanour is helpful, where they are comfortable and happy at work and come there with a clear purpose."

### *Attitudes for business*

Certain personal attributes were deemed to be important for business, namely the ability to communicate, team working and being flexible. The specific 'fit' of attitude has been separately identified as knowledge, skills or behaviours which are expected specifically within a working environment and are actively sought. In some cases this is so important that employers ask candidates to spend a week in the office as a final selection method to see if the 'fit' to the company or team is appropriate. Seeing opportunities for business, having a career focus with realistic expectations and understanding the company were identified, but 'client readiness' was particularly stressed and examples of graduate behaviour at interview which encouraged a candidate to be rejected were given including failure to evidence external facing 'client readiness' for example by inappropriate personal presentation (including items such as jeans and piercings) or having a blasé or arrogant attitude. Personal presentation at the interview was viewed as important "Have they come to the assessment suited and bootied? ...it doesn't matter where you get your suit from, you can get it from the local charity shop, but there's no excuse for not turning up in a suit. Or smart."

Some specific examples of what recruiters said they looked for included candidates who were 'clued up' about themselves and their subjects; who could look for business opportunities and implement them; would be able to deal with clients over the phone or in person in a professional manner; and most importantly would 'Fit' with the team and with the company ethos as the "Pace of work is much faster. It is about people and engagement". One recruiter particularly looked for graduates who were honest about both their leadership and group working skills "while industry wants some leaders...they don't all want leaders ..[recruits] have to be able to facilitate others."

### *Work related skills*

Work experience is valued both in terms of demonstrating previous track record of attributes required (notably demonstrable work ethic) and particularly if it has relevance to the role applied for which also shows a commitment to the career. There was some sympathy with the plight of graduates in the current economic climate in getting appropriate work experience as one interviewee commented "... poor construction students, I feel so sorry for them, for the students, because all of the recruiters have cut back on their formal placements, ...[these are now] ... hard for them to get. Some of .. [the companies].. only do ...[placements for]... the people that they are sponsoring now" There was no expectation of RICS/CIOB

competencies at graduate recruitment level, although companies looked for cognate graduates to come from an appropriately accredited course.. Findings indicate that IT skills are now expected of employees as standard and are not specifically verified. Networking skills were seen as “key to getting a good work placement, which in turn may assist them to get a graduate job” and may be linked to perceptions of applicant motivation and tenacity.

### *Subject Discipline*

Subject discipline related topics are largely associated with the expectations of alignment of subject specialism to future role. In the case of cognate degree holders the named disciplines were sought for specified roles. Where non-cognate degree holders were accepted (notably in the Real Estate disciplines) specific skills or attributes linked to their degree subject were targeted which related directly to business specific requirements. Examples given were Law or Economics students or English graduates for their report writing skills. Employers in the Construction sector focussed on identifiable discipline specific skills far more than Real Estate employers. In both Construction and Real Estate, candidates were expected to have knowledge of the industry and some recruiters stated that they were often unpleasantly surprised by the low level of knowledge and understanding of some candidates.

### *Investment by company*

Companies acknowledged that there was a significant investment made in recruiting a new graduate. As such several skills were named as able to be remedied by additional training post recruitment. Indeed early career training could be seen to be expected by most respondents, as employees are largely encouraged to gain professional qualifications. Being keen to learn and develop was linked to this aspect, and two of the interviewees stressed that graduates do not have to be correct all the time. An indication of likely aptitude for further development is gained from reference to applicant track record, with some employers referring not just to degree classification but to A-level or GCSE results. Others saw life experiences as a more important measure of likely future performance. Numeracy is generally not specifically assessed for most roles, historic qualifications (e.g. maths) may also be considered for verification if appropriate and it was seen that numeracy issues could be addressed if perceived as a problem. Written English was seen as the key weakness for many applicants, and this generally led to de-selection at CV stage rather than being addressed by later training.

### *Recruitment techniques*

The large numbers of applicants necessitates sifting of application forms/CVs followed by informing successful candidates that they will pass to the next stage. There may then be a further sift, for example by phone interview, or by a second read of the forms by business managers to decide who to call to interview, or assessment centre where senior managers may become involved. The interview was used to gauge skills which could not be fully assessed by application form or CV but is also seen as more personal and thus assessment of personality fit may override other positive attributes. Differentiation was said to be easier to assess at interview than from a CV or application form. Interviewers say that they attempt to understand the candidate in a deeper way which may include assessment of how a candidate thinks or breaks down thought processes, for example by using hypothetical questions, asking for examples of managing conflict and of being resilient. Assessment centres were commonly used where there were higher numbers of candidates, interviews where candidate numbers were smaller.

This data represents a very small set – so results are indicative rather than generalisable and will need to be confirmed with further research work, however the initial indications are as follows.

KSAOs identified in the work which may be looked for at CV or application form then not assessed further:

- Resilience,
- Specialist IT skills,
- Tenacity,
- Time/self-management.

KSAOs looked for at CV or application form which may then be verified by further selection processes:

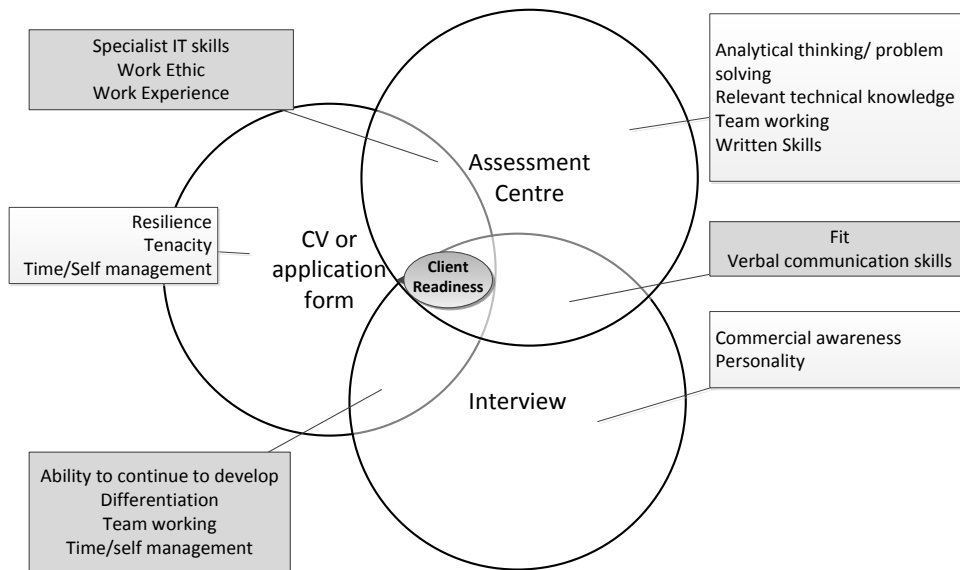
- Ability to continue to develop,
- Client readiness,
- Differentiation,
- Team working,
- Work ethic,
- Work experience.

KSAOs identified as not looked for at CV or application form but only during later selection processes:

- Analytical thinking or problem solving,
- Commercial awareness,

- Communication skills - verbal,
- Fit,
- Personality,
- Relevant technical knowledge for their discipline,
- Written skills.

Identifiers used at CV or application form level are useful from an initial filter point of view but the ones verified by two or more methods indicate higher importance. The assessment of ‘Client readiness’ can be seen to be placed centrally to the selection process. Adaptability and flexibility were commonly excluded, as it was said to be difficult to judge in advance of hiring, as graduates say what they think interviewers want to hear. Figure 2 gives a diagram of which KSAOs are assessed by each selection method.



*Figure 2 Venn diagram showing where interviewees identify the assessment of applicant skills and attributes may occur (source: Author)*

The importance of good performance in all stages of the selection process was summed up by two of the interviewees "An application is really answering the employers question of ‘are you worth meeting?’ ... "an impressive and persuasive CV ... bodes well" but [at interview ].. “there is still a sense that ... [graduates] are owed a job.. they come..[across as].. far too arrogant ... and can be quite... disrespectful of the assessment process.”

## DISCUSSION & CONCLUSION

This initial work focused on the experiences of Sheffield Hallam University Alumni and their employers. The findings were compared to the literature relating to recruitment in general to establish any emerging trends.

KSAOs identified in the literature and in which both questionnaire and interview agreed and rated highly were

- Commercial awareness,
- Verbal communication

KSAOs where the ratings were moderately high in the Questionnaires and Interviews were;

- Achievement/results orientation,
- Literacy/Written communication,
- Personality/positive attitude,
- Planning/organising,
- Problem solving/analytical thinking,
- Time/Self-management.

KSAOs identified in the literature and in which both questionnaire and interview agreed and rated moderate were;

- Customer care/business focus,
- Flexibility/adaptability,
- Resilience,
- Team skills/Teamwork,
- Work experience.

A number of KSAOs were rated moderately low by both sets of respondents;

- Creativity,
- Enterprise skills,
- Numeracy.

Finally the following KSAOs were rated consistently low by both Interviews and questionnaire;

- Emotional Intelligence,
- IT skills,
- RICS / CIOB competencies.

It should be noted that although rated 'low' these skills are not necessarily valueless in employer terms. In terms of emotional intelligence this aspect

was commonly not currently assessed by the techniques used, IT skills were ‘expected’ and therefore not formally assessed and professional body competencies were expected to be gained during early career years. Additionally graduates identified that the alignment of their skills to the business, confidence, flexibility and use of initiative were important which appears to strongly align with the requirement of 'client readiness' highlighted by the recruiters.

Literature stressed the requirements of flexibility and adaptability, the student desire to improve their employability during their time at University, and a perceived lack of linkage between students/employers and HE with reported skills shortages in several areas. The study indicated that while flexibility may be important it was difficult in practice to judge at selection, and therefore other skills were considered to be of greater value for the execution of the selection process. There is no single common view on what constitutes employability generally and there is a measurable (statistically significant) difference in perception between recruiters and graduates regarding the relative values of identified KSAOs.

<b>May be Underestimated by Graduates</b>		
Achievement/results orientation Creativity	Literacy / Written communication Commercial awareness Enterprise skills	
<b>May be Overestimated by Graduates</b>		
Emotional Intelligence IT skills (general e.g. MS office) IT skills (specialist e.g. CAD) Numeracy Planning/organising	Problem solving / analytical thinking Resilience RICS / CIOB competencies Team skills/Teamwork Time/Self-management	
<b>Graduates and Employers agree on importance (no significant difference)</b>		
<b>More important</b>	<b>Moderate</b>	<b>Lower Importance</b>
Verbal communication Personality/positive attitude Commercial awareness	Customer care / business focus Work experience	Flexibility/adaptability

*Table 3 Summary of differences between KSAOs highlighted by graduates and recruiters*

There was also agreement on the importance of interpersonal skills, positivity in outlook and understanding of the industry. The ‘skills’ looked for may not be skills in the purest sense (for example work experience) but

act as evidence for several underlying KSAOs which are deemed desirable (Table 3).

Key points arising from this work are summarised as follows;

Value placed on course;

- Literature states that graduates feel that the difficulty in getting a job is due to deficiencies in their course,
- Qualification alone (grade or institution) is not necessarily a deciding factor in gaining employment,
- Personal and interpersonal skills were valued by recruiters.

Student attributes from outside course;

- Some desirable aspects were difficult to judge during recruitment and selection process,
- Work experience whether relevant or general was valued as an indicator and as evidence of having of several other positive attributes.

Recruitment

- A combination of written and personal interactions were the most commonly used to assess graduates.

Subsequent development;

- There was evidence of the expectation of recruiters to invest in their graduates post recruitment,
- Both specific and generic skills are valued to a lesser, or greater, extent dependent on the role in the company.

This work identified the following themes;

- Literature and recruiters state that skilled graduates are currently in surplus,
- There is little literature on how Built Environment discipline graduate skills and competencies are specifically assessed by the recruitment process,
- Graduates from Built Environment courses generally enter employment within this sector,
- During recession there is enhanced competition for jobs and a commensurate low success rate for applications,
- Different graduate roles require different skills and competencies and knowledge bases, values or other attributes,
- Recruiters expect that graduate employees will be trained further, and will recruit according to specific company requirements,

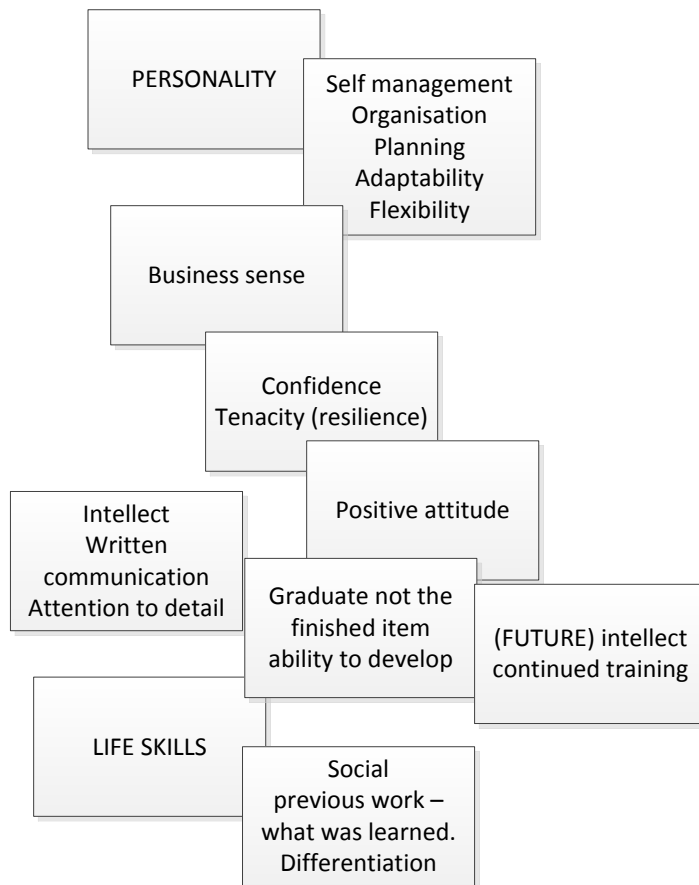
- The recruitment methods available allow discrimination of different factors between candidates, to aid selection. There is much emphasis on assessing fit, which may account for the favouring of interviews as a key component of the selection process where numbers are low enough to facilitate this,
- RICS competencies are developed post-employment and therefore may not form part of recruitment and selection criteria,
- Graduates are expected to continue to develop. Graduate identity or adaptability may form part of the recruitment requirements,
- Graduates need to understand the industry, and be able to demonstrate this.

Candidate knowledge, skills or attributes particular to the industry role, were identified to understand how graduate recruitment and selection was rationalised and undertaken, and to what extent the graduate skill requirements were met. Recruitment and selection is a complex and personal process which involves the interaction of several individuals within a framework defined by company requirements and ethos, and overlain by the financial climate.

There is no definitive description of 'employability' in the Built Environment disciplines but there is a linkage between identifiable attributes which tend to correlate with success in gaining employment. Recruiters in the Built Environment disciplines try to assess the way in which an applicant would 'fit' into the team, business unit or company. Some of the aspects identified in the literature as desired by the company (for example flexibility and adaptability) are difficult to assess during selection procedure and can only be judged fully when the candidate is in post. Where attributes are difficult to assess, indirect methods are used which include looking at past employment or exam track record.

Further training after employment is expected by employers and graduates especially where a professional qualification is advantageous. In terms of the KSAOs which were identified and the linkages which may be drawn from analysis of the data, Figure 3 shows the linkages of these and their overlap with each other to simplify the key aspects informing recruitment of a built environment graduate.

Students do not necessarily see that the struggle to gain employment is a factor of the difficult economy or personal deficiencies, but believe that the course is somehow letting them down. This is of great importance when considering the levels of student indebtedness resulting from the rise in tuition fees.



*Figure 3. Interrelated skills and attributes (source: Author)*

In summary this initial work indicates that the processes of selection utilised by companies within the construction industry does not always target candidate knowledge, skills or attributes particular to the industry role, but seeks an optimal package where deficit in one characteristic may be compensated by another positive aspect. The full picture of the graduate journey towards recruitment is not shown by this initial study, and this would form a useful piece of future work.

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