

Construction Skills Shortages – Any Global Lessons Gleaned from UK Scarcity?

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Abstract

Despite recent credit crunch developments and their potential detrimental impact on levels of construction activity, the United Kingdom (UK) construction sector is still perceived as relatively buoyant appertaining to construction output levels and employment prospects. Numerous construction industry experts have commented on the prospect of the UK construction sector overheating, a situation exacerbated by the deliverance of, amongst other high profile projects, the 2012 London Olympic Games. The UK Government's Department for Trade and Industry (DTI), responsible for all aspects of the UK in terms of business and commerce, has identified a construction skills crisis as one of its main areas to focus on.

This paper will review existing literature to ascertain why people are not choosing to enter the construction industry, identify problems which arise from a shortage in skilled labor, discussing and establishing why it is not a popular choice of career and finally providing recommendations as to how the current labor shortage can be addressed. The paper ultimately proposes possible solutions to labor shortages which, in due course, could be adopted by other countries when faced with similar circumstances.

Keywords

Skills shortages, Career development, Professional perceptions, UK construction industry

1. Introduction

The perceived buoyancy of the British construction sector, despite recent credit crunch events, is still putting pressure on its current and future labor market. Over recent years, projected recruitment targets have been high across professional, managerial and craft occupations (Dainty, Kappia and Price, 2006) and the issue of skills shortages in the UK construction industry is one that is debated often. Campbell (2006) offers an insight into the pressures facing the industry by forecasting that UK construction output is set to average 3% growth annually between 2006 and 2010. He predicts that in order to deliver this growth an average of 88,000 new recruits will be required each year. Goodyear (2007) indicates that the construction industry is currently buoyant and with this opportunity comes the ever present challenge of managing an industry skills shortage with Boyd, Puckett and Spring (2007) identifying that one in five construction posts can not be filled promptly due to a labor shortage.

The dilemma being for the industry where do the recruits of the future come from, as the skills shortage is a threat to the long-term health of the industry (Gurjao, 2007). It is suffering recruitment problems with

its traditional source of labor, namely young men aged 16-19. In order to meet this challenge it is essential that the industry, with its male dominated reputation, does all it can to attract a wider range of participants as possible. Efforts are being made to recruit women into the workforce, albeit with limited success. In the short term, the industry is filling the skills gap using workers from low wage economies or from other countries. Gurjao continues that what is needed is a skilled workforce that sees its long term future in the UK construction industry and, to meet the challenge of this skills gap, the recruitment of women is no longer simply a nice thing to do, it has become a necessity. Chevin (2008) reveals the government's latest promotional plans for trying to increase the supply of females into the industry; the success of this is unknown at this point.

The Royal Institute of British Architects' President (Prasad in Olcayto, R, 2007, p.5) provides another angle to the labor shortage blaming the British school curriculum as a barrier to ethnic minority participation in the profession. Furthermore, Chris Nahah of the Society of Black Architects welcomed the comments but quoted "the curriculum was just one dimension" (Nasah in Olcayto, R, 2007, p.5) in addressing the lack of diversity within the construction workforce.

Appreciating the above statement and recognizing that the British construction industry is the second largest in Europe (BERR, 2007), it is essential to understand why people, and in particular school aged children, are not choosing a career within the construction industry. NAO (2001) illustrates the knock-on effect of this lack of young people entering the construction industry by highlighting recruitment onto construction related construction courses between 1994 and 1998. It cited applications for construction related courses run by universities for professional staff fell by 26% and as a result both contractors and consultants expressed concerns that the industry was becoming increasingly reliant on a less skilled workforce.

Campbell, F. (2006) identified (in descending order of importance) the main reasons which discourage young people from entering the construction industry as: the industry is less attractive than other sectors; demand for construction work is not consistent; incomes are not high enough; industry is not inclusive; not enough career development; lack of continuing professional development; lack of suitable courses; skills requirements are not high enough; unwillingness to recruit from non-construction sectors.

Although the topic of a labor shortage is frequently discussed within numerous publications, it appears, from the literature search that central government, construction employers and educational institutions remain unaware as to the scale of the problem and its future implications. Hilpern, K (2007) summarized this and offered reasons to support a change in policy, namely the government should legislate so young people stay in school, training or workplace training until the age of 18; whilst Park, C (2007, p.25) states that higher educational establishments are currently looking to re-dress this issue through introducing or amending course content to reflect skills development, employability and career planning all of which can be aided by involving employers within the educational process; with Goodyear (2007, p.26) highlighting that employers must do more to adopt new family-friendly working practices to attract a wider number of applicants.

As a result of the literature research a number of factors linked to the construction skills shortage began to pre-dominate, these are:

An industry which is poorly perceived?

Fellows *et al.*, (1995) remarks that the construction industry is perceived to provide an unattractive and uncertain career, this perception remains.

A need for diversified recruits, with more females required

Goodyear (2007, pp 17-18) sees historically only 16% of those employed within the construction industry as female.

More professionals are required for a variety of construction jobs

CITB (2007) predicted that over 32% of the recruits forecasted for the next five years are needed to fill roles as construction managers, architects or other professional and technical staff. Matthews (2007) identifies a trend that a worrying two thirds of companies have experienced difficulties in recruiting sufficiently skilled staff and 43% of companies believed the standard of recruits over the last 5 years has decreased.

Limited role of Teachers & Career Advisers within schools

Steer (2007, pp.32-33) commented that “All sorts of excuses, such as the ubiquitous health and safety one, are used to keep the youngsters away, but the truth is more basic: teachers and career advisers seem neither to understand nor appreciate that our industry can be a gateway to fulfillment, achievement and for the lucky few, significant reward”.

2. Research Methodology

The main objective of the research task was to determine the varying perceptions of students relating to the construction industry. The British school system tests and examines students at ages 14-16 and then at ages 16-18, therefore research was undertaken on these two different age groups to identify any different perceptions to the construction industry across different age groups and at different levels of academic achievement.

The first research approach was of a qualitative nature, via a pupil forum, held with students aged between 14 and 16. This allowed for the researchers to gain an understanding of the students’ basic comprehension of the construction industry. The questions asked for this 14 – 16 years old pupil forum were as follows:

- 1) How large is the construction industry and how many people does it employ?
- 2) Name 10 different groups of people who function within the construction industry?
- 3) What qualifications are required to enter into the industry, and are such qualifications essential?
- 4) What are your thoughts about females in the construction industry?
- 5) If you are not considering a career within the construction industry, state why not.
- 6) What benefits does the industry provide in terms of pay and other potential perks?

The pupil forum took place over four consecutive weeks and allowed for 8 different groups of students who demonstrated their current understanding (by general background questions) and resultant perceptions of the construction industry. 280 students formed the sample for this research.

When devising this research methodology the researchers were keen to focus in on quality rather than quantity, especially when conducting the first research exercise; and therefore planned these sessions to only last 40 minutes ensuring the students did not lose their concentration. The researchers also felt that the above format allowed a high level of interaction between the students and the researcher, which would generate greater participation and bring more accurate results. A pre-determined structure and timetable was utilized to an extent, however the exercise was delivered in such a way that it encouraged open discussion. New themes and ideas could be introduced and it was imperative to understand and develop these new ideas and opinions.

Each of the 8 teaching groups were further sub-divided into sub-groups of 4–6 people. It was within these groups that initial perceptions of the construction industry were established. A question and answer element of the research was also included and this was equally important for both the researcher as the presenter and the student as the recipient, as it allowed the student to increase their knowledge of the

subject area whilst it allowed the opportunity for the researchers to investigate the full extent of student perceptions and crucially what factors have created / influenced this opinion.

The second research method, aimed at students aged 16-18 years old, was one of a 'quantitative' style, a decision that was taken in order to allow the researchers to compare and contrast these findings with those expressed within the 'pupil forum', from the same school and social class but of a different age group. The questionnaire was designed in such a manner that it allowed the researchers to ask very similar questions in different formats, which would then offer validity to the pupil forum feedback. By contrast the 'qualitative' method posed opportunities for students to pick up on the researcher's tone and deliverance style and potentially provide results which could be inadvertently influenced.

The questions asked for the 16 – 18 years old pupil forum were as follows:

- 1) How many people you think the construction industry employs?
- 2) Provide an estimate as to the output of the construction industry per annum, in monetary terms?
- 3) List 10 different roles within the construction industry.
- 4) Expressed as a percentage how many construction based employers would contribute towards or fund the entirety of your further education, if studying a construction related degree or equivalent course?
- 5) How much would you estimate an average post graduate to be earning having just left university and accepted a construction related post?
- 6) The government is advocating construction related apprenticeships, seeking to double the number of people pursuing them by 2020 to 500,000 people per annum. Would you be interested in undertaking an apprenticeship post sixth form?
- 7) What percentage of the construction industry workforce is female?
- 8) When you look to seek employment in the future, list 8 paramount requirements, which that position will need to offer?
- 9) If you have chosen your career path or are still in the process of considering your options what sources of information have you or are you utilising, which are therefore influencing your decision?
- 10) Would you consider a career within the construction industry, either post sixth form or at some point in the future?

100 questionnaires were distributed amongst sixth form students as part of their normal studies. The questionnaire contained 14 questions, with questions devised in a variety of formats, ranging from simple yes /no responses, tables to open ended lists. When constructing the questionnaire, its design ensured that the respondents were given a wide enough variety of answers, though answers fell within definite categories making the reconciliation uncomplicated. Questions employed within the questionnaire were constructed in a manner which tested the results found from the Pupil Forum. Respondents were offered sufficient time to complete the questionnaire. The researchers appreciated the benefits of deriving the sample from the same non-selective educational institution, namely a like for like comparison in terms if the school sociology was fundamental in gauging the differences in attitudes between students of different ages, but from the same backgrounds.

3. Research Results

The 14-16 years old 'pupil forum' results were as follows:

The Students' initial views of the construction industry i.e. perception

Respondents identified a trade background (manual work) as being the only real area for employment within the industry. Students felt that nearly all jobs within the industry related to manual work, which

would be undertaken solely onsite. One student quoted “People who work in construction do so because they are good with their hands and are not that intelligent”.

90% of respondents perceived the industry to be very dirty and unhygienic, affecting the vast majority of construction employees. Over 70% of the sample thought that accidents and fatalities on building sites was a common occurrence; over 50% of the sample could only associate the industry to one which produces residential buildings, with the majority of the students not recognizing the role which the industry plays in modernizing and developing infrastructure and non-residential projects.

Student perceptions on females employed within construction

95% students accepted that females were of equal importance and of benefit to the industry and should experience the same opportunities, though it was quite clear from the tone of the female respondents that many had never genuinely considered a career within construction until this date. Students promptly explained that they have noticed very few females working within the industry. When asked the females within the forum provided the following view “Females are not physically strong enough for a career within the industry”.

20% of the students felt that an increase in the number of females within the industry would be prudent. A diminutive section of the sample expressed the view that, an increase in the number of females would pose benefits for all those influenced by the industry. This concept can be linked in with that of the RIBA and the requirement for further employee diversity.

The Student’s awareness of different roles (and hence careers) within the construction industry

95% of the respondents were only able to identify 5 roles and potential careers within the industry; this is disappointing especially when 280 students contributed to the findings. 90% of the sampled students perceived the industry to offer poor rewards in terms of remuneration and therefore preferred to pursue a higher paid career.

Students were aware of a variety of qualifications, which would aid them in pursuing a career within the industry demonstrating that students do recognize that they must achieve some level of academic competency in order to pursue a successful career. However only 9% of the sampled students suggested a degree to be of relevance, which is concerning especially as CITB (2007) predicts that future recruitment is needed forecast to fill roles as construction managers, architects or technical staff i.e. needing degree entry level. Only 20% identified construction apprenticeships as an essential qualification, indicating that this further learning option is not being sufficiently advocated or promoted. With only 14% recognizing vocation qualifications, these responses implied that students still remain unaware as to the benefits offered by vocational qualifications in developing a construction career.

Reasons deterring students from pursuing a career in construction

28% of students within the sample group stated that they would never choose a career within the construction industry and 90% of the sampled students perceived the industry to offer poor rewards in terms of remuneration and therefore would prefer to pursue a higher paid career elsewhere. 70% of students generally associated the industry to be one, which solely worked outdoors. It was quite interesting to hear the thoughts of the 3 in 10 people who would definitely not look to pursue a career within construction, mainly due to the fact there very few valid arguments were put forward to support their statement.

In reality the industry somewhat contradicts the views mentioned above as this is an industry which always tackles new problems, rarely being repetitive, salaries are 30% higher than the national average; and a large section of the workforce operate indoors. Therefore it seems that the majority of the 28% who would currently opt away from a construction career would do so on the basis of being ill-informed. It is apparent that the merits of the industry have not been adequately publicized to those still of school age.

What benefits are on offer for those who wish to pursue a construction career?

Students demonstrated a limited understanding of the rewards being offered by any occupation, which they may choose to pursue, with only 26 of the 280 students questioned managing to identify a possible reward being offered for working within the industry and only a further 2% of the sample associated construction with a job which was decently remunerated.

Although you would not expect students to have a detailed understanding of pensions it was alarming to think that so few, namely 2%, identified pensions as being a benefit freely available to workers employed within this sector. It is very evident that students are not aware of additional benefits such as company cars, share schemes and bonuses. On a more positive note 42% of those who did provide an answer suggested that they were aware of sponsorships which were on offer within the industry.

An overall summary of the first research exercise i.e. the aged 14-16 pupil forum, allowed the researchers to formulate the following understanding of student perceptions:

- 95% of students accepted that females were of benefit to the industry;
- 95% of the respondents were only able to identify 5 construction roles/careers ;
- 90% of the student's general perceptions of the industry are somewhat misinformed;
- 80% of females had never genuinely considered a career within construction until this date;
- 63% of respondents were unable to provide a general estimate as to the actual size of the industry;
- 28% who would currently opt away from construction would do so on the basis of wrong perceptions;
- 14% of the students recognized vocation qualifications and the benefits such presented;
- 9% of students questioned managed to identify a possible reward being offered for working within the industry.

The 16-18 years old 'pupil questionnaire' results are as follows:

Student perception of the construction industry

58% of the respondents stated that they would not consider a career within the industry, which is a resounding increase when compared to the 28% of students from the 14-16 age groups. It is very disturbing to think that as students mature and become further informed about career opportunities, the number willing to consider a career within construction actually decreases. The results demonstrate that students aged 16-18 are also unable to provide any real level of accuracy when estimating the size and opportunities within the industry. 56% of those questioned had no real concept as to the actual size of the industry, and only 15% managed to select the correct category of overall construction employee numbers.

Hilpern, K (2007) suggests that a postgraduate who has followed a construction related degree would be commanding a UK average salary of £25,500 per annum. 48% of the sample was mistaken in thinking that the average salary is within the range £16,000 - £20,000 per year; 17% of the group estimated that post graduates were earning average salaries of £11,000 - £15,000 per year. These misconceptions could be the reason as to why so few sixth form students are choosing to apply for construction related careers. Noting that only 1 in 10 of the students selected the category of £26,000 - £30,000 per year and knowing the average salary for a postgraduate is set to rise to over £26,000 per annum in 2008, this lack of knowledge must be detrimental in attracting new talent into the industry.

Quantity of females working within the industry

68% of the students were correct in suggesting that females contribute towards less than 20% of the industry's labor force.

Student's awareness of the various roles within the construction industry

70% of respondents were unable to identify more than 5 disciplines which operate within the sector, with 38% of the sample failing to name more than 3 disciplines, which suggests to the researchers that students

are not being informed as to what the various construction professions entail. The above results plainly demonstrate students' lack of awareness when it comes to the varying roles within the industry, something which could be expected from students of a younger age group; however it is startling to think that post 16 students have a similar comprehension.

Essential benefits from a career in construction

Regardless of the industry it appears that students have a genuine general lack of knowledge when it comes to what benefits can be achieved through any career, not just construction. Students should generally have a greater appreciation of the benefits and rewards of careers as it may determine what university course or apprenticeship they choose to follow. For example 20% of those questioned identified pensions to be of importance, something which a career within construction could satisfy noting the availability of company pension schemes.

Over 50% of those questioned suggested that less than 1 in 5 of employers would offer sponsorship, when it is fair to suggest that 75% of employers are keen on employing trainees due to the current skills shortage. Only 4% of the students felt that circa 75% of employers would offer sponsorship, which provides further evidence that employers, career advisers, teachers and the like are collectively failing to provide enough information. Quite surprisingly 46% of the sample opted for the stance that they would consider pursuing an apprenticeship in the future, which is a distinct contrast to the views advocated by the students who participated within the student forums. It would be interesting to ascertain the reasoning as to why the majority of the sample 54% claimed they would not even consider a construction related apprenticeship.

Factors influencing choice of career and the influence of teachers and careers advisors

The biggest source of influence when choosing a career was identified as 'industry information' with teachers have the least bearing upon the students, specifically concerning construction benefits and the student's peers also appear to be far more influential in making career decisions. If this data were to be utilized when planning future recruitment strategies then the reader would be well informed to promote the industry throughout a wide variety of areas, as it is clear that students are choosing to utilize a large scope of information sources, with school sourced information least accessed.

An overall summary of the second research exercise i.e. the 16- 18 years old pupil questionnaire, with the purpose of the researchers developing a more comprehensive understanding of students' perceptions, from a different age group, but with the same social characteristics generated the following data:

- 70% of students were unable to identify more than 5 disciplines which operate within the sector;
- 15% of the students were able to provide a reasonable estimate as to the volume of people who are employed within the construction sector, when compared to 13% of the 14-16-age group;
- 10% of the students selected the category of £26,000 - £30,000 remuneration per year and knowing the average salary for a postgraduate is set to rise to over £26,000 per annum in 2008, this lack of knowledge must be detrimental in attracting new talent into the industry and perceptions of construction related earnings are totally misinformed;
- 4% of the students felt that circa 75% of employers would offer sponsorship, which provides further evidence that employers, career advisers, teachers and the like are collectively failing to provide enough information.

4. Conclusions

Despite identifying numerous pertinent factors such as the need for an increased diverse labor force, more professionals needed, and the limited role of teachers in influencing career decisions, the researchers felt that 'perception', and more specifically 'student perception' would need to be central to the research in order to redress current and projected labor shortages.

Student perception could easily be enhanced through increasing employer involvement within education, peer pressure is also very influential upon students' career choices and therefore it is crucial to ensure that peers have a more accurate perception of the industry. This is something that could be tackled as part of enhancing employer involvement within the education system and addressing teachers and career advisers' inaccurate perceptions of the construction industry. It is very clear from having undertaken this research project that Government is aware of the labor crisis which is starting to constrain the construction sector, a view that is supported by their proposals in aiming to double the number of apprentices working within the UK by the year 2020 and introducing construction specific diplomas for 14-18 year olds. Therefore it is extremely important that the academic community buys into these new vocational courses and appreciates the benefits they offer to the UK economy over the foreseeable future.

What of course was not perceived by the researchers was the global credit crunch. How this affects the construction industry it is too early to tell and can in its own right form another research project.

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