LIFELONG LEARNING AND THE CHANGING ROLE OF QUANTITY SURVEYING PROFESSION

Menaha Thayaparan*, Mohan Siriwardena, Dilanthi Amaratunga, Chamindi Malalgoda and Kaushal Keraminiyage
School of the Built Environment, the University of Salford, UK

ABSTRACT

Quantity surveying skills sector has undergone significant changes over the past decade. Although, it was initially considered as the main profession for quantifying construction works in projects, quantity surveyors today undertake a spectrum of work ranging from providing investment appraisals to construction project management. In addition, changes in market, construction industry, client needs and profession posed threats and opportunities to the profession. Quantity surveyors have, therefore, subsequently begun to explore new potential roles. Apart from the traditional roles, quantity surveyors are expected to perform evolving roles in the profession with increased importance and emphasis on meeting clients' needs. The constant change in the roles they perform in the industry pose a challenge for the quantity surveying professionals to be competitive in the construction labour market. In addressing this issue, the concept of lifelong learning is brought into their sector so that a continuous supply of updated knowledge and skills is ensured. The Higher Education Institutions (HEIs), being one of the main knowledge providers, carry a major responsibility to respond to the changing nature in the profession. In this context this paper, presented as part of the BELLCURVE research project at University of Salford, analyses close relationship between the QS professional development and the lifelong learning agenda promoted in particular in the European Union. Furthermore, the implications to governance systems of the HEIs system in making them more responsive to the changing labour market needs are discussed.

Keywords: *Changing Role, Governance Reform, Higher Education, Lifelong Learning, Quantity Surveying.*

1. INTRODUCTION

The mismatch between graduate skills and labour market requirements has been identified as one of the main factors behind graduate unemployment and employer dissatisfaction in the built environment sector. It has been realised that the educational centres have a major role to play in helping the employees to develop their skills and competencies which are required by the industry. The labour market requirements of the construction industry are of dynamic nature, changing from time to time, due to various factors.

In addressing the mismatches, Built Environment Lifelong Learning Challenging University Responses to Vocational Education (BELLCURVE) research project focuses on integrating the construction labour market skill needs into the modernisation agenda of the Higher Education Institutions (HEIs) in the Europe. The project intends to develop a framework to make HEIs more responsive to the labour market skills needs while promoting the lifelong learning agenda among HEIs. The developed framework will be then validated in the context of different built environment sectors such as construction management, civil engineering, quantity surveying and disaster management. In this context, quantity surveying, being one of such sectors, this paper focuses on analysing the changing nature of quantity surveying skills and its relationship with lifelong learning. The paper also looks at the implications to the HEI governance systems in making them more responsive to the changing market needs.

The paper is organised into five sections. Section one is an introductory part and briefly explains the rationale behind BELLCURVE research project. Section two provides an overview to the project and identifies the need for HEI governance reforms followed by the conceptual framework and research

* Corresponding Author: E-mail- m.thayaparan@salford.ac.uk, Tel- +44 161 295 6939, Fax- +44 161 295 5011

methodology. Section three explains the evolving nature of the quantity surveying skill requirements and the need for lifelong learning in the quantity surveying sector. Section four provides an overview to the HEI governance and identifies the need to reform in order to respond to labour market skills needs more effectively and to facilitate lifelong learning. Finally the conclusions are provided in section five.

2. BELLCURVE - AN OVERVIEW

Built Environment Lifelong Learning Challenging University Responses to Vocational Education (BELLCURVE) is an EC (European Commission) funded research project currently being conducted at the School of the Built Environment, University of Salford, UK, in collaboration with Department of Construction Economics and Property Management, Vilnius Gediminas Technical University, Lithuania and Department of Building Production, Tallinn University of Technology, Estonia.

BELLCURVE addresses the issues associated with the mismatch between graduate skills and labour market requirements, and suggests that the Higher Educational Institutions (HEIs) should be able offer innovative curricula, teaching methods and training/retraining programmes which include broader employment-related skills along with more discipline specific skills. This requires a much clearer commitment by universities to lifelong learning opportunities.

BELLCURVE considers 'student engagement' as a continuous through-life process rather than a temporary traditional engagement limited by the course duration. This through-life studentship defines the essence of the new innovative "Lifelong University" concept, whereby providing an opportunity for learners to acquire and develop skills and knowledge enabling responds to changing construction labour market needs on a continuous basis (Thayaparan *et al.*, 2010). Thus, BELLCURVE aims to promote the concept of 'lifelong university' in modernising HEIs to be more responsive to labour market skills needs. The project focuses on governance reforms in HEIs delivering Built Environment programmes across the European Union (EU).

Figure 1 illustrates the initial conceptual framework developed for HEIs to become 'continuing education centres' for graduates while responding to labour market skill needs. The labour market skills requirements for built environment professionals are considered in terms of demand and supply side issues. The HEIs are expected to fulfil the labour market requirements. However, the problem was spotted within the process of capturing the skills requirements of the construction labour market and the process of appropriately responding to such requirements by HEIs, despite the fact that HEIs are one of the major suppliers of skills and knowledge. BELLCURVE will address this problem by further developing, refining and validating the framework to capture and respond to the skills requirement, giving particular attention to governance reform.

Governance (G), Funding (F), and Curriculum (C) are identified as the major areas for reform within the higher education system (See European Commission, 2010). The main focus of this research will be on governance reform where it aims to minimise the mismatch identified between the skills demand and the skills supply. In this regard, three major elements such as capturing skills need (Demand), Responding to the skills needs (Supply) and HEI Governance reform have been identified within the initial framework as shown in Figure 1. Key issues associated with these 3 elements will be analysed in order to address or minimise or resolve the identified problem. This will be done through 4 phases such as framework development, framework refinement, framework validation and research conclusion. Since this involves a development process, a design science approach (Van Aken, 2004; 2005, Van Aken *et al.*, 2007) is used as the most appropriate overall research methodology for this project.

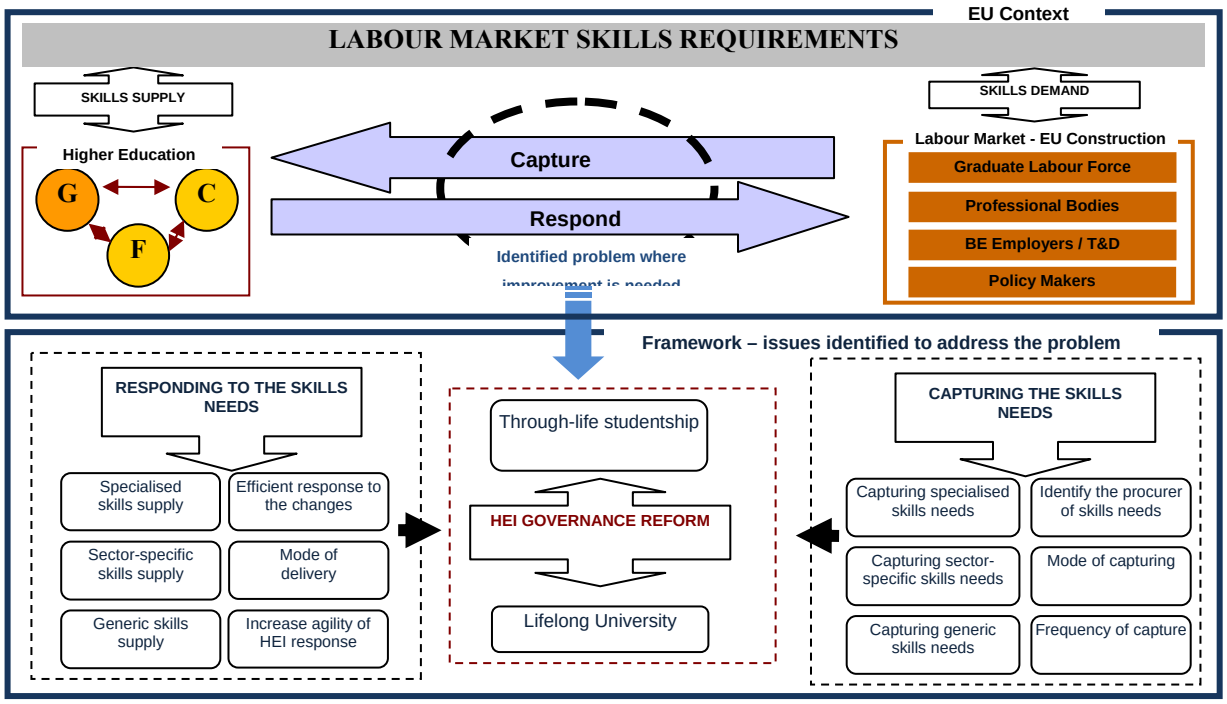

Figure 1: Conceptual Framework

In order to produce the initial input for the framework, a thorough literature analysis was conducted. This helped to identify the issues associated with the framework development. In addition, questionnaire surveys with students, graduates in the EU construction, construction employers and recruitment agencies; interviews with higher education lead officers, professional bodies and policy makers; and workshops with academic members are carried out to elaborate the identified issues within the framework development. The developed framework will further be refined based on expert interviews and focus group. The purpose of this phase is to ensure that the framework has captured all the important components associated with the identified research problem. Case studies will be conducted to validate the framework on built environment sectors such as quantity surveying, disaster management, civil engineering, and construction management sectors. As an outcome of the research carried out in all 3 phases, recommendations will be provided on governance reform for HEIs to become continuing education centres for graduates while responding to labour market skills needs. These will be in the form of BELLCURVE framework, best practice guidelines and policy documents which will finally be disseminated to the stakeholders of the EU HEIs and construction labour market.

3. Evolving Nature of QS Skills and Life Long Learning

Quantity surveying has always been considered as a dynamic profession and the skills sector has undergone various changes during its evolution over the past centuries. Within its traditional sense, quantity surveying, quantifying construction works has considered as the main responsibility of the profession. In fact, in early 70s, this traditional role has been highlighted as the main function of the Quantity Surveyor by one of the profession's strong professional bodies, the Royal Institution of Chartered Surveyors (RICS). They highlighted the skills in "measurement" and "valuation" as the distinct competencies possessed by Quantity Surveyors (RICS, 1971). This highlights the distinguishably recognised "technical" role of the quantity surveyor of that era. Indeed, this "technical" role of the quantity surveyor has been the most widely known role throughout the history. Due to this very nature, many believed that the functions performed by the quantity surveyor can easily be undertaken by any person or a machine capable of performing simple arithmetic calculations. Due to this view, the construction industry professionals have continuously raised their doubts about the mere survival of the quantity surveying profession. Wood (2008) cited the following quote from an article in the 1889 edition

of the Building Magazine to demonstrate the doubt that the construction professionals have had about the survival of the Quantity Surveying profession more than a century ago.

"The QS is not a necessity in the order of things. Any convenient and cheap method of multiplying drawings and specifications and placing copies in the hands of each estimator would answer the same purpose and get rid of the QS for good" (Anon, 1889 cited in Wood, 2008).

Despite all the above speculations, the Quantity Surveying profession survived and currently regarded as one of the well paid professions within the construction industry with a clear skill shortage. Many believed that at the heart of this survival resides the dynamic nature of the profession, which shaped up the skills and the competencies of the profession to cater for timely demands. This dynamism is evident in the different skills and competencies of Quantity Surveyors highlighted by the RICS at different times. As indicated before, RICS has recognised "measurement and valuation" as the main competencies of a Quantity Surveyor in early 1970s. Deviating from its traditional "technical" role, during mid-80's RICS have promoted the role of the Quantity Surveyor as "the Building Economist", "Cost Engineer", "Procurement consultant" and as a "Cost Consultant" (RICS, 1986; RICS, 1991). These roles have attributed more of a "managerial" image to the quantity surveying profession.

Within the traditional technical role of the quantity surveyor the main activities were limited to a narrow scope. It has often been noted that the traditional role of the quantity surveyor started with the production of the Bill of Quantities and ended at the settlement of the final accounts (RICS, 1984). However, the scope of work and the nature of work performed by the quantity surveyor changed drastically after mid 80's where the quantity surveyor is expected to contribute throughout the entire lifespan of the construction project (and beyond) in a more managerial capacity. Within its contemporary role, quantity surveyors undertake a spectrum of work ranging from providing investment appraisals to construction project management.

The above mentioned paradigm shift in the role of the quantity surveyors was triggered by various developments in the economic conditions, research and technological developments. A sharp review of these factors will reveal that the development trends in the building economics subject domain, that have occurred during the latter part of the twentieth century, made the biggest impact on the changing roles of quantity surveying profession. This can be seen clearly in Table 1.

Table 1: Chronology of Developments in Building Economics (Ashworth, 2004, p.29)

Date	Building Economics	Other Developments	Practice
Pre -1960s	Building Bulletin: Cost study (1957) Building price books RICS Cost Research Panel	Post-war building boom	Approximate estimating Bills of quantities Final accounts
1960s	Const Studies of elements Cost limits and allowances Value for money in building Building Cost Information Service The Wilderness Group	Cost-benefit analysis	Elemental bills Operational bills Cut and shuffle Cost planning Standard phraseology
1970s	Cost-in-use Cost modeling Contractor's estimating Cost control	Measurement conventions Data coordination Building maintenance information Buildability Value-added tax/taxation Bidding strategies Computer applications Undergraduate surveying degrees	Computer bills Formula methods of price adjustment Cash flow forecasting Engineering and construction
1980s	Life-cycle costing Cost data explosion Cost engineering techniques Accuracy in forecasting Value engineering	Coordinated project information Procurement systems European comparisons Construction industry analysis Postgraduate education Single-point responsibility	Project management Post-contract cost control Contractual procedures Contractual claims Design and build
1990s	Value management Risk analysis Quality systems Expert systems	Facilities management Commercial revolution Single European market Building sustainability Information technology	Fee competition Diversification Blurring of professional boundaries Development appraisal
2000s	Benchmarking Added value in building and design Whole-life costing	IT in construction Knowledge management	Rethinking construction Lean construction Facilities management

Along with the above, the changes in market, construction industry, client needs posed threats and opportunities to the quantity surveying profession forcing it to change for its mere survival. Indeed this fact has been identified and highlighted by the RICS within its report titled 'The challenge of change' raising a warning to the quantity surveying profession that if the profession did not adapt to change then it would not exist in the future (Powell, 1998). As a result, few evolving roles surfaced within the quantity surveying profession with increased importance and emphasis on meeting clients' needs. This involves quantity surveyors to work on procurement, design cost planning, whole life costing, value management, and risk analysis and management. Since the buildings have become more engineering services oriented, emphasis was placed on measurement, cost and value of such services. Other evolved roles have also included project and construction management, facilities management, contractual disputes and litigation (Ashworth and Hogg, 2007).

The role of quantity surveyors are expected to develop in future due to the factors such as client focus, development and application of information and communication technologies, research and its dissemination, graduate capability and practice size. With particular focus on graduate capability Ashworth and Hogg (2007, p13) say "*the number of graduates in quantity surveying is unlikely to change significantly in the short term from the reduced numbers experienced in the late 1990s. The relative shortage in supply has already had the effect of increasing salaries. Those graduates who have a good technical understanding, a broader use of business skills and a commitment towards lifelong learning are likely to be in high demand. For other graduates they will need to make themselves either more valuable to practices and contractors or less expensive"*. In this context, considering quantity surveying for lifelong learning is essential, in order to the cope up with changing and increasing skill requirements of the profession.

Lifelong learning is an emerging concept of acquiring new skills throughout the life of an employee. The CITB Construction Skills (2009) has identified that more employers are supporting the lifelong learning and have begun to use associated products and toolkits. Little has been realised by the HEIs to adopt lifelong learning within their education system, despite the fact that lifelong learning is a core concept in

modern education. In this context, it is vital to explore the role of HEIs in the lifelong learning and how could they continuously support the construction workers, throughout their life time, through training and re-training programmes.

The next section analyses the governance system of HEIs and the need to reform the governance to support lifelong learning agenda thus making HEIs as continuing education centres.

4. HEI GOVERNANCE REFORM

The aforementioned sections explained the changing nature of the QS skills and the importance of lifelong learning. HEIs, being a main body of knowledge creation and sharing, it is important to see how flexible and supportive the HEIs are to encourage and facilitate the lifelong learning among construction professionals, QS professionals for instance. This section justifies the need to reform HEI governance to make it more responsive to changing labour market skills. It also provides brief information about the nature of European Higher Education and the EU strategies that are linked with objectivises of the BELLCURVE research project.

Universities are key players in shaping the future of Europe and in the successful transition to a knowledge-based economy and society (Commission of the European Communities, 2006). However, this crucial sector of the economy and of society needs in-depth restructuring and modernization if Europe is not to lose out in the global competition in education, research and innovation (Van der Ploeg and Veugelers, 2007, p.26). European higher education is fragmented into small national systems and sub systems, without effective links and bridges between them, which has been pointed out one of the problems behind the under-performance of European universities.

The increased investment on research and education shows the important role that the knowledge and technology play in economic performance. According to the Commission of the European Communities (2006) the performance of developed economies is closely related to their ability to create, disseminate and apply knowledge. Attaining higher levels of education is viewed as an economic investment, as the costs of higher education are much less than lifetime earnings (Van der Ploeg and Veugelers, 2007). As universities are at the centre of knowledge production, of dissemination of knowledge and of transfer of knowledge into innovation, they could greatly benefit with the advocacy, which is one important element of governance, for investment in research and development (Larsson, 2006).

The term ‘governance’ in the HEI context, is defined in many different ways by various authors, essentially capturing the idea of imposing regulations and controlling the process of the way universities govern their affairs. In most institutions a distinction exists between corporate governance and academic governance. The former is primarily concerned with an institution's legal and financial standing, and the latter involves the integrity of its core activities of teaching and research (SCOP, 2006). Larsson (2006) in his key note address made at the Seminar on ‘Governing bodies of Higher Education Institutions: Roles and Responsibilities’ concluded that the Board of governance should have its own strategy for excellence where it includes the overall organisation of the university, the distribution and use of financial resources and the management of all the systems and structures surrounding research and teaching.

According to Organisation of Economic Cooperation and Development (OECD, 2005) corporate governance is defined as “the system by which business corporations are directed and controlled. The structure of the corporate governance specifies the distribution of rights and responsibilities among different participants in the company and spells out the rules and procedures for making and monitoring decisions on corporate affairs”. In the White Paper on University Governance, Oxford 2006 (cited Larsson, 2006) the term governance is referred to the processes of decision-making within an institution.

According to Eurydice (2008), which provides information on and analyses of European education systems and policies, the higher education governance in Europe has two sectors called external governance and institutional governance. Information about these two sectors are summarised here (see Eurydice, 2008). In the external governance, the overall responsibility of the higher education lies with the relevant government ministries or departments who are usually supported by national level advisory

bodies, and they are mainly responsible to ensure that the HEIs adhere to the law, ministerial codes and legal statutes. Each country has a national level body which consist of executive level heads of all public or government dependent private universities, where they provide proposals to ministries regarding the development of higher education sector. Furthermore, national quality assurance bodies also play an important role in external governance of HEIs where they are mainly responsible for setting quality standards and conducting evaluations, elaborating and implementing policies and standards for improving the quality of education. In the internal governance setting, all HEIs in Europe has an executive body which is often called Rectorate head by a rector, president or a vice chancellor; an academic body which is usually called, senate, academic council or academic board which is primarily responsible for the educational and research services provided by the institution; a decision making body which is responsible for long term strategic planning and for determination of the institutional orientation; and an advisory or supervisory body (in some countries the supervisory body is also the decision making body) which monitors operational, educational and financial activities which is composed solely or largely by external stakeholders.

Governance problems in supplying higher education services has been identified as one of the key challenges that Europe faces in the system of higher education and research. There is a pressure from the policy makers for the universities to play a greater role as social actors, and to create social value added by extending their role in society. European universities suffer from bureaucracy and lack of autonomy. This nature of overregulation hinders universities' capacity to react fast to changes in their environment (Van der Ploeg and Veugelers, 2007). The strategic framework for European cooperation in education and training ('ET 2020'), adopted by the Council in May 2009, underlines the need to promote the modernisation agenda for higher education to improve the quality and efficiency of education and training, where curriculum, governance and funding are the main areas for reform identified in the agenda (European Commission, 2010). The Commission of the European Communities (2006) provides four recommendations, which are directly related to governance, in their modernisation agenda for higher education. They are Member States to guide the university sector as a whole through a framework; new internal governance system; universities to overcome their fragmentation into faculties, departments, laboratories and administrative units; and Member States to build-up and reward management and leadership capacities within universities. It further suggests that providing right mix of skills and competencies to the labour market to be accomplished, through structured university programmes to enhance directly the employability of graduates and by grasping the challenges and opportunities presented by the lifelong learning agenda.

In addition to the modernisation agenda for higher education discussed above, there are other strategies such as Lisbon strategy, EU 2020, Bologna Process and Education and Training 2010 that act as the key drivers for the reform of EU higher education. Europe faces major structural challenges such as globalisation, climate change and an ageing population. The economic downturn has made these issues even more pressing. In order to address these challenges, Lisbon Strategy was set out, based on a consensus among Member States, to make Europe more dynamic and competitive, in a sustainable way and while enhancing social inclusion. The Lisbon strategy thus aims to stimulate growth and create more and better jobs, while making the economy greener and more innovative (Europa Press Room, 2010). The 'EU2020' Strategy, the successor to the Lisbon Strategy, highlights education as a key policy area where collaboration between the EU and Member States can deliver positive results for jobs and growth. This strategy shows how the EU can come out stronger from the crisis and how it can be turned into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion (European Commission, 2010). One of the objectives aimed by the ministers in the Bologna Declaration is promoting lifelong learning as a means to help European citizens to be more competitive by allowing them to learn new technologies (De Wit, 2006). In this context, the objectives of BELLCURVE are directly linked to these strategies.

Since BELLCURVE focuses on integrating the construction labour market skill needs to the modernisation agenda of the HEIs in the Europe, the vision to increase corporation between the higher education and the enterprises is the core of this project. Challenges faced by construction enterprises are fed to the European higher education agenda through the lifelong learning feedback loop, thereby ensuring

the subject content of the European HEIs is dynamic, and of high quality, to address the market needs (Thayaparan *et al*., 2010).

One of the main areas of reform as identified in the modernisation of agenda is governance reform which is where the focus of the BELLCURVE lies. Governance of higher education has both direct and indirect links with the curriculum and funding systems. The reform in governance might therefore have an impact on the way a curriculum is developed and delivered and on the system of funding, and vice versa (Thayaparan *et al*., 2010). In the past, when the external environment was stable, the main responsibility of the University governance was to manage the institutions, whereas nowadays as the external environment is no more a stable one, and the education is realised as a major investment for the economic performance of a country, the role of University governance cannot be limited merely to the institutional management. OECD (2003) expressed that the expectations of higher education have changed beyond recognition. This indicates that the universities are surrounded by change and competition, thus the Board of governance has a role to play in managing *the change* rather than *the institution* (See Larsson, 2006). Hence, BELLCURVE project suggests governance reform as the area to be focused for modernisation and efficiency of HEIs. In terms of response to the changing labour market requirements, the governance reform proposed through this project ensures that the HEIs will be more agile and dynamic in providing the appropriate mix of skills and knowledge, to the target audience at the appropriate time.

5. CONCLUSIONS

This paper is based on an ongoing research project called BELLCURVE. The research project is in the process of developing a framework, which is for HEIs which deliver built environment programmes, to address the mismatches identified between graduate skills and construction labour market requirements. The developed framework will then be validated in the context of different Built Environment sectors, where this paper focused on one of such sectors – Quantity Surveying – thus analysed the changing role of the quantity surveying profession.

Quantity surveying has been considered as a dynamic profession and the skill sector has undergone various changes. This changing and increasing skills requirement of the profession demands a lifelong learning for those who work as quantity surveyors, in order to survive in the competitive labour market. A reform in the HEI governance would support the lifelong learning agenda by making HEIs as continuing education centres.

In this context, this paper also emphasised the need to modernise HEIs to make them more responsive to the labour market requirements. The modernisation has been proposed in the form of governance reform as governance problems in supplying higher education services has been identified as one of the key challenges that Europe faces. The reform in governance will increase the capacity of the HEIs to react fast to the changing environment of the construction labour market.

Future publications will report the empirical findings in relation to the necessary HEI governance reforms to enhance lifelong learning in quantity surveying.

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