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Advancement of Built Environment Higher Education through Lifelong Learning

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ABSTRACT

The mismatch between graduate skills and labour market requirements has been identified as one of the main factors behind graduate unemployment and employer dissatisfaction, particularly in the Built Environment sector, as reported by EU labour force survey 2008. This paper presents the initial conceptual ideas of a research project titled Built Environment Lifelong Learning Challenging University Responses to Vocational Education. This research projects aims to modernise the Higher Education Institutions to be more responsive to construction labour market skills needs. To achieve this aim, lifelong learning concept will be incorporated within the Higher Education system where focus will be given on Built Environment programmes. The overall research methodology and the research techniques adopted are outlined in this paper. It also shares an initial literature review in the area of skills and employability and discusses the role of HEIs in lifelong learning.

Keywords: Built Environment, Higher Education reform, Labour market skills, Lifelong Learning

1. BACKGROUND TO THE RESEARCH

Construction is a vital sector for any economy as it contributes to economic growth and employment. The UK construction industry has changed significantly 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 (Gurjao, 2008). If this situation continues, the industry can expect a collaborative environment in construction, reducing the fragmented nature in the long run. Increased need for labour and the dynamic nature of the construction industry demand a workforce which meets the industry's requirements both in terms of numbers and skills. However, the industry is suffering from severe skills shortages, resulting in a threat to the healthy production of construction output, and in turn, its business performance. The current economic condition makes the situation even worse in terms of recruiting more skilled workers to meet the increased demand. The shortage of people, with the technical and managerial skills, to fully utilise the new technologies has been a problem for many years in the construction industry (Egan, 1998; Whittock, 2002; Construction Skills, 2007). The results of a new skills survey conducted by the Chartered Institute of Building (CIOB, 2008) show that skilled trades and crafts people, and those with senior and middle management experience are in great demand within the construction industry. The trade level skill shortages have been identified in bricklaying, carpentry

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and joinery, electrical installation, plumbing, pipe fitting and roofing (Dainty *et. al.*, 2005). The CIOB (2008) survey found that the demand for middle and senior managers is an on-going and increasing problem within the industry. This skill and labour shortage can be a threat to the long-term growth of the industry and it may also challenge the industry's capability to deliver the projects on time, within the budget and of the desired quality.

The industry also faces recruitment problems with its traditional source of labour – young men aged 16-19 (Gurjao, 2008). Construction employers recruit and rely increasingly on workers from overseas, either inside or outside the European Economic Area, giving rise to immigration issues with an increasingly diverse force (Gurjao, 2006). However, a survey by CIOB (2008) revealed that migrant workers are not very common as senior and middle managers in UK construction. Even if migrant workers hold managerial skills they are often not recruited due to their poor English language competence (CIOB, 2008). This leaves the industry to focus more on skills enhancement for the people who are already in the industry.

In this context, the Higher Education Institutions (HEIs) as one of the major suppliers of the professionals to the construction labour market could contribute to enhance the existing skills levels in the industry through training and re-training initiatives, while also ensuring that the level of employability of the fresh graduates from their institutions is high. This way, they could play a major role in meeting the skills requirements of the construction labour market.

However, in reality, there is a mismatch between graduate skills and labour market requirement. European Union (EU) labour force survey (OECD, 2008) reported that the mismatch between graduate skills and labour market requirements has been identified as one of the main factors behind graduate unemployment and employer dissatisfaction, particularly in the Built Environment sector. Most universities tend to offer the same courses to the same group of academically best-qualified young students and fail to open up to other types of learning and learners, e.g. retraining courses for graduates or gap courses for students. This has hindered the provision of training/retraining opportunities to increase skills and competency levels in the workforce and led to persistent mismatches between graduate qualifications and labour market skill needs. In order to overcome this persistent problem, university programmes should be structured to enhance directly the employability of graduates and training/retraining programmes which include broader employment-related skills along with more discipline specific skills.

In addressing this issue, this research 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 and enabling response to changing construction labour market needs on a continuous basis. In doing so, the role HEIs play in continuous improvement of the skills and knowledge among the construction professional is investigated.

This paper presents the conceptual ideas of the research undertaken followed by the overall research methodology adopted to carry out this project. It also analyses some initial literature on skills and employability, and discusses how the HEIs could play a role in advancement of the Built Environment education through Lifelong Learning.

2. THE CONCEPTUAL MODEL

A conceptual framework explains, either graphically or in narrative form, the main things to be studied – the key factors, constructs or variables – and the presumed relationships among them (Miles and Huberman, 1994: 18). Based on this definition, this section illustrates the initial conceptual framework as shown in Figure 1.

As shown in Figure 1, there are 2 major components identified within the labour market skills requirements. They are skills demand and skills supply. The demand is generally created by the labour market to which the HEIs are expected to respond as they are one of the major suppliers of skills and knowledge. But, the problem was identified within the process of capturing the skills requirements of the EU construction labour market and the process of appropriately responding to such requirements by HEIs. In order to address this problem, it is important to create a link between the capture and response by the HEIs. The HEIs have basically 3 components to deal with; they are Governance (G), Funding (F), and Curriculum (C) as identified in Figure 1. Nevertheless, the major focus of the 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 needs (Demand), Responding to the skills needs (Supply), and HEI Governance reform have been identified and included within the initial framework as shown in Figure 1. All the issues associated with these 3 elements will be analysed in order to address or minimise or resolve the identified problem.

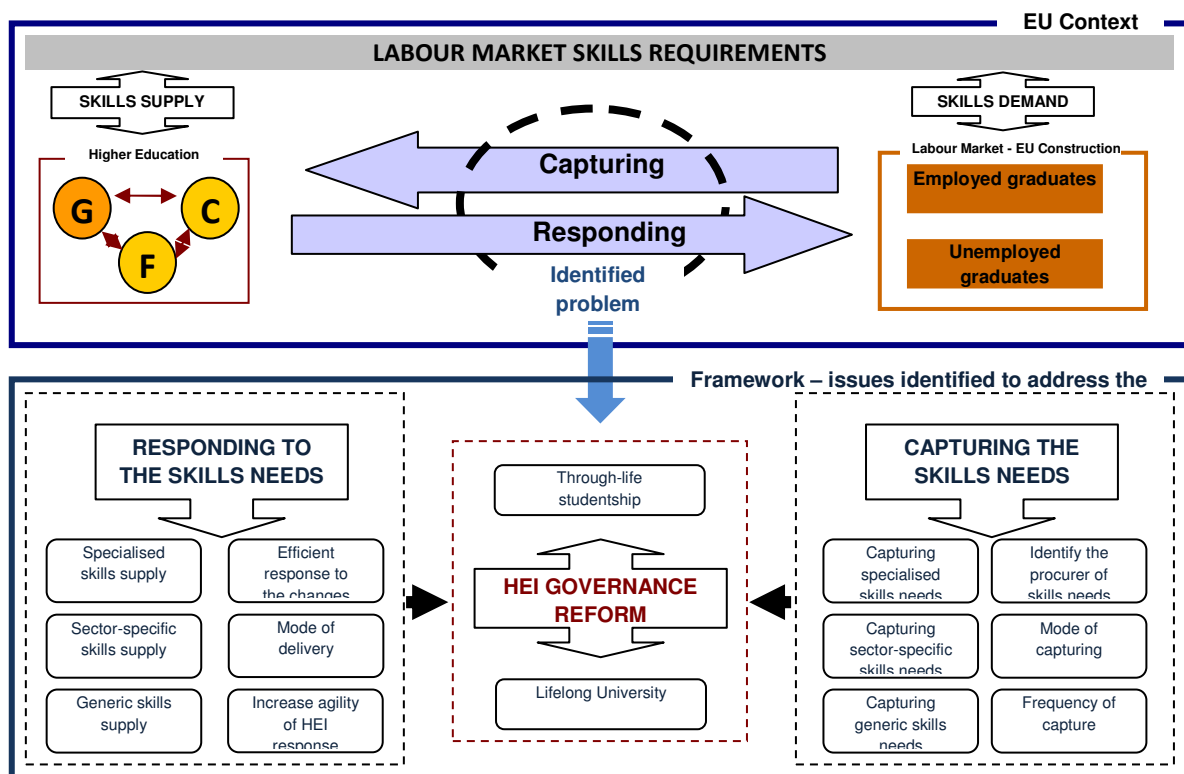


Figure 1: Conceptual Framework of the Research Project (BELLCURVE)

The next section explains briefly the overall research methodology, the research techniques in particular, adapted to this research.

3. RESEARCH METHODOLOGY

Research methodology refers to the overall approach to a problem which could be put into practice in a research process, from the theoretical underpinning to the collection and analysis of data (Collis and Hussey, 2003; Remenyi *et al.*, 2003).

The Lifelong University is a concept of capturing the labour market needs from the field of built environment and conveying the necessary knowledge and the skills to respond to the captured needs. This is basically a two way process. In one hand, 'lifelong university' encourages graduates who are

either employed or unemployed to inform their university on labour market skill requirements. On the other hand this will provide the opportunity for HEIs to be appropriately responsive to provide the right mix of skills for the labour market through training and retraining programmes.

In order to make the HEIs as lifelong universities, they need to be modernised as the current system of HEIs in terms of its governance, funding and curriculum are not flexible enough to respond quickly and effectively to the dynamic nature of the labour market. Thus the focus was given on Higher Education reform.

This will be achieved through developing a framework, as identified in Figure 1, to capture and respond to the skills requirement, giving particular attention to governance, funding and Built Environment curriculum. This process involves 3 phases as detailed below.

3.1. PHASE 1 – FRAMEWORK DEVELOPMENT

In order to provide the initial input for the framework, a thorough literature analysis will be conducted. This will help to identify the issues associated with the framework development. Further structured questionnaire and semi-structured interviews will also be used as part of primary data collection for the framework development. These research techniques including the literature analysis are used in order to understand the current state of art in labour market requirements in the field of Built Environment and to understand the system of Higher Education Institutions in terms of its governance, funding and curriculum. Further, the barriers and challenges faced by the HEIs in efficiently capturing from and responding to the labour market needs will also be analysed. The target audience for data collection will mainly include the Built Environment undergraduates and graduates from HEIs; employers of construction labour market; recruitment agencies; members from top management team of HEIs.

3.2. PHASE 2 – FRAMEWORK REFINEMENT

The developed framework will then be refined based on expert interviews and focus group. The purpose of this phase is to ensure that the developed framework captures all the important components associated with the identified research problem. The framework will be given to experts who are part of top management structure of HEIs; company CEOs; and policy makers who influence the decisions related to HEIs. The data analysis of expert interviews and focus group will help to refine the initial framework. This will in turn identify the ways to reform the governance structure of HEIs in order to make them more responsive to labour market needs.

3.3. PHASE 3 – FRAMEWORK VALIDATION

Once the framework is developed and refined, then it needs to be validated for its practicality. A case study strategy has been chosen to achieve this purpose. At least 3 case studies will be conducted from 3 different EU countries. UK, Lithuania and Estonia, who are the official countries involved in this research project, have been identified to carryout the case studies. Existing Built Environment programmes provided by the HEIs from each of the above countries will be included in the case studies. Any specific labour market needs will also be identified in order to validate the refined framework. Further, views of the policy makers and University authorities of all the countries involved will be obtained for the validation process.

As a contribution 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 best practice guidelines and policy documents which will finally be disseminated to the stakeholders of the EU HEIs and construction labour market. This will ultimately lead the HEIs to provide lifelong learning to the graduates and in turn to become lifelong universities.

The next section provides an initial literature review on skills and employability, where the changing nature of the skills requirement and the methods available to improve the existing level of skills are discussed.

4. SKILLS AND EMPLOYABILITY

The term 'Employability' has been defined in various ways. A review of the literature suggests that employability is about work and the ability to be employed (Hillage & Pollard, 1998). This includes the ability to gain initial employment; the ability to maintain employment and made 'transitions' between jobs and roles within the same organisation to meet new job requirements; and the ability to obtain new employment if required. According to Centre for Employability, University of Central Lancashire, it has been defined as "A set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy" (Dacre Pool and Sewell, 2007).

The employers seek individuals with specific and generic skills for employment. The specific skills are the skills specific to the job performed. To give few, for example, are structural engineering, carpentry, estimating, etc. The generic skills are not specific to any particular job, but they are essential to perform effectively and efficiently any kind of job. To give few, as example, are team working, communication, customer focus, leadership, problem solving, reflection, report writing, etc. Therefore it is important to increase the supply of employable individuals to the labour market by ensuring that the HEIs place greater emphasis on the respective employability skills that employees are expected to have in the respective sectors.

Employability skills are those basic skills and capabilities required for getting, keeping and doing well on a job (Robinson, 2000). They complement the technical skills required for a specific job. UK commission for Employment and Skills (UKCES, 2008) has identified the employability skills under two categories as 'Personal skills' and 'Function skills'. The personal skills consist of self-management; thinking and solving problems; working together and communicating; and understanding the business, whereas the functional skills consist of using effectively the numbers, IT and language. The employers, when recruiting graduates, mainly look for a good degree; specific skills; generic or transferable skills; experience; and personal attribute (Gilleard, 2010). This shows that in addition to the academic achievement, one should be able to demonstrate a good level of skills and competencies to succeed in the employment in today's competitive world. Curtis & McKenzie (2001) have identified communication; problem solving; personal skills; numeracy; information technology and competence in a modern (foreign) language as core skills required for an employee in the United Kingdom. Further, USEM model developed by Knight and Yorke (2004) have identified four broad and inter-related components that influence employability. They are Understanding which is more than knowledge; Skilful practice which includes the deployment of skills, Efficacy beliefs including students' views of themselves and personal qualities; and Meta-cognition including student's self awareness regarding, and capacity to reflect on their learning.

Based on the aforementioned facts, it is evident that there is a strong connection between the skills and employability. The more skills and knowledge one will demonstrate the more chances available for him getting employed. Therefore it is important to focus on matching the skills requirements with the level of skills one possesses. As discussed within the background of the research, reducing or minimising the gap identified between the skills requirements and skills supply will help to increase the level of employability.

The next section focuses on the construction labour market and its skills needs.

4.1. THE CHANGING NATURE OF THE SKILLS REQUIREMENTS IN CONSTRUCTION

Construction labour market, due to its labour-intensive, multi-disciplinary and highly fragmented nature, relies highly on the skills and competencies of its workforce. As it involves workers with various disciplinary backgrounds, the industry uses a wide range of technical and managerial skills. For construction project leaders, decision-making, leadership, motivation and communication have been identified as most important skills, in addition to their technical skills (Odusami, 2002). The labour market requirements of the construction industry are of dynamic nature, changing from time to time, due to various factors. Some of the factors contributing to the construction labour market skills crisis and thus affecting the skills shortfalls have been identified (Dainty *et. al.*, 2005). They are demographic decline in the number of people entering the labour market; the changing and fluctuating nature of the market and the related decline in the operative skills; the introduction of the new technologies; the growth in self employment and the use of specialist and labour only sub contractors; the fragmentation of the industry; the decline in the training and related resources; the changes in the industrial structure, wastage rates and industrial competition; and considerable market expansion. In addition to above factors, the recent developments in the economic recession have made a reduction in the labour demand and vacancy levels for construction workers. The employers are thus trying to achieve the maximum utilisation with the minimum numbers of workers. This has resulted in the existing construction workers to concentrate more on acquiring or developing new skills in order to retain in the industry and to meet various skills demand. In relating to this, Dainty *et. al.*, (2005) has identified that the employers need the employees to be able to work in more than one trade area and this has created a need for multi skilled workers. It is, therefore, of utmost important to gain insight into the problems companies face with the level of skills of their own staff and how do they want such skills to be improved. Hence, possessing up-to-date skills and competencies has become a vital role in the construction sector.

The next section briefly presents the existing methods available to improve the skills levels of construction labour market. It further discusses what could HEIs do in meeting the skills requirements.

4.2. EXISTING METHODS TO IMPROVE THE SKILLS LEVELS OF CONSTRUCTION LABOUR MARKET

This section describes in brief few mechanisms such as new recruitment; skills improvement; skills utilisation; and lifelong learning, which currently exist to meet the skills requirements of the industry.

All the construction related jobs are included within the list of shortage of occupancy which is frequently researched and published by the UK Boarder Agency. This clearly shows the pertaining demand for the construction jobs and the difficulties of requirement within the domicile of UK workers. The construction industry increasingly relies on migrant workers. However, it faces difficulties as the recruitment of new staff in England has been severely affected by the economic downturn (CITB Construction Skills, 2009).

The present conditions challenge the employees to possess and be able to demonstrate a range of skills in order for them to retain in their jobs. It demands the employees to improve their skills and acquire new skills. Further, the changing nature of the labour market and introduction of new technologies have also led the employees with no option but to enhance their skills. This can be achieved through training and development activities. There are basically two types of training such as on-the-job training and off-the-job training. The former helps employees to develop and improve their work skills whilst doing the job. This type of training includes demonstrations, instructions on how to perform the job effectively, learning by doing, etc. Employees are also encouraged to develop their skills through off-the-job training courses. These could include training from external professional or educational centres; undertake short courses, distance leaning or sandwich courses that are useful for their job; and self-learning. In this regard, Personal Development Planning (PDP) contributes to increase the level of employability. PDP is directly relevant to employability and it helps students to

translate their learning experiences into the language of employability. It also develops skills which could help students to sustain their employability (Ward, 2010).

Skills utilisation has been identified as another important factor which will contribute to meet the labour market requirements. One of the key gaps in the existing sources of labour market information is on the issue of how employers make use of the skills their employees possess (UKCES, 2010). Policy makers from across all four UK nations are now increasingly turning their attention to the issue of skill utilisation in the workplace and this is a development that is likely to exacerbate as there is a widening realisation that 'there is little value to an organisation having a skilled workforce if the skills are not used well' (UKCES, 2009: 11).

Further, the 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. This research will help HEIs to increase the duration of their student-engagement, which is presently limited to the course duration.

The next section explains the role of HEIs in lifelong learning.

5. THE ROLE OF HIGHER EDUCATION INSTITUTIONS IN LIFELONG LEARNING

Higher education around the world is growing faster. The universities are under pressure to change as they are expected to produce new knowledge which is to respond to student needs and to satisfy the practitioners (OECD, 2003). The Higher Education Funding Council for England (HEFCE) funded the Enhancing Student Employability Co-ordination Team (ESECT), which comprises key researchers; practitioners in the field; and representatives of stakeholder organisations, to help the sector engaging with the issue of the employability of graduates. As a body for knowledge creation and sharing, the HEIs are also responsible in enhancing the student employability. Developing employability skills entails experiential action-learning; work experience and opportunities for reflection and integration (Smith, 2010). Lack of such skills is one of the critics of the new graduates from HEIs. Re-engineering was also proposed as another method for the change in Higher Education based on a research conducted in Mexico (Mungaray-Lagarda, 2002). The author further argues that achieving substantial improvement in university affairs is impossible if change is limited to academic quality.

Educational institutions are improving their system to incorporate the concept of lifelong learning as they recognise that lifelong learning is a common importance for many countries both at national and international levels (Xiaozhou, 2001). A research carried out in China, identified few measures to make their universities function in lifelong learning. They include establishment of a lifelong learning mission in the running of a university; the regulation of profession and course system; practice of proper teaching methods for lifelong learning; development of recurrent education at various levels; taking full advantage of educational technology; establishment of lifelong learning regulation and system; internationalisation of promoting lifelong learning (Xiaozhou, 2001).

It is therefore vital to research how the HEIs can be modernised to incorporate the lifelong learning aspect within the system of education and how would this lead to uninterrupted supply of skills and knowledge to the construction labour market in an efficient and effective manner. Taking this aspect into consideration this research aims to reform higher education, giving particular focus on Built Environment programmes.

6. CONCLUSIONS AND WAY FORWARD

This paper is part of a research project which aims to promote the concept of 'lifelong university' in modernising Higher Education Institutions to be more responsive to labour market skills needs. The conceptual ideas of this research have been shared in this paper and accordingly this research intends to address the mismatch between the supply of skills by the HEIs and the demand created in the construction labour market. A framework to effectively capture and efficiently respond to the labour market skills will be developed through 3 phases called framework development, refinement and validation. Throughout these 3 phases various research techniques such as questionnaire, semi-structured interviews, expert interviews, and focus groups will be used. An initial analysis of the literature has been presented where it is evident that the skills one possesses have a direct link with the employability. It has also been realised that the HEIs has a vital role to play to increase the employability of their graduates and to continuously support them by providing training and re-training programme throughout the life-time of the students. This way, the student-engagement with the HEIs will be strengthened. As this research mainly focus on construction labour market, the programmes offered by the HEIs where the changes are required, will mainly fall under the broader discipline of Built Environment. Further, particular attention will be given to the governance system in the HEIs as the authors believe that the reform should take place in governance to make the HEIs more agile. As a way forward of this research, the existing system of HEIs across the EU will be studied to understand the system in terms of its governance, funding and curriculum. The barriers associated with the quick respond will also be identified and action will be taken to minimise or eliminate such barriers. Finally this research project will provide recommendations to reform higher education to advance the built environment both in terms of educational and practical perspectives.

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