

## **Is there a gap between graduate competencies and the expectations of the built environment industry in South Africa?**

The construction of the Gautrain, the revamping of transport infrastructure and erection of nine stadia for the FIFA 2010 World Cup between 2006 and 2010 are a glimpse of what South Africa can achieve when the State and the private sector seamlessly align planning and construction. However, rolling countrywide service delivery protests are a reminder that not all is well. The Presidency, in the National Development Plan admitted in 2011 that South Africa did not appear to have the capacity to deliver on its policies and programmes.

In 2012, the Presidential Infrastructure Coordinating Commission identified the inability to deliver services to communities as due to the combination of a number of factors. These included amongst others, the requirement to respond to the demands and comply with complicated government legislation, poor inter-governmental relationships, tiers of government that are not aligned in programmes and delivery as is desirable, the lack of human resources within Government structures and the private sector, the sluggish speed at service delivery, poor planning at institutional levels, tender abuses and corruption, delays in project implementation, poor quality of programmes and project execution, the high costs and monopoly pricing in the construction of infrastructure, the lack of political alignment and the slow or non-payment of service providers etc.

This Council of the Built Environment (CBE) study noted that aside other considerations, each of the above mitigating factors, are related to having *competent people in the right place to execute tasks they are burdened with*. The pertinent questions for the study was how does one determine competencies and how does the built environment (BE) graduate and workplace relate to each other in terms of competencies offered by the graduate and those desired at the workplace?

This study was designed to address the following issues; (i) Are tertiary level BE graduates competent to execute what they are trained to do? (ii) Do BE graduates live up to the

expectations of industry? (iii) If the perceptions that there are gaps between graduate competencies and the expectations of industry are true, how is industry addressing the gaps? (iv) What can the CBE and other BE stakeholders do to improve competencies and meet BE industries' needs.

The literature review unpacked 'competence' from various perspectives. This was partly aimed at establishing where the South African BE graduates and employers stood in relationship to the other regions of the world. The literature aimed at pointing out the shared meanings, challenges and solutions to the issues of competency. Furthermore, the review was set in the background of a growing global awareness for the need for training institutions to produce graduates with new sets of knowledge, skills and attitudes who are able to respond to the attributes of the contemporary workplace set in a competitive economic environment.

The literature highlighted four themes, i.e. definitions and components of competencies, the characteristics of South Africa's BE training institutions, views on graduate competencies and workplace expectations of graduate competencies. The literature review was both global and local.

The CBE National Study of 2012 defined competency as the 'sufficiency of qualification' that is recognised 'by a person completing a process of education in combination with professional practice experience, which leads directly to recognition by an independent professional organization.' The same study noted that the definitions of competency with respect to the six Built environment Professional Councils (BEPCs) varied in the degree of detail. Furthermore, the CBE study observed that some BEPC definitions are descriptive and are subject to multiple interpretations whilst others have more precise descriptions of competencies.

A brief analysis of the 15 universities offering BE degrees pointed to the following; Engineering is the most readily available BE discipline with 14 tertiary institutions offering

various specialisations of engineering. Project Management and Construction and Quantity Surveying are both offered at 12 tertiary institutions. Architecture is offered by 9 institutions. Property Valuation is offered at 4 institutions and Landscape Architecture is offered at 3 tertiary institutions. Engineering also dominates BE professional registrations as it made up 69.2% of the total BEPC membership in 2012. The provincial distribution of BE training institutions is concentrated in Gauteng, Western Cape and KwaZulu Natal provinces. With one or two exceptions, the disciplinary offering takes place almost exclusively in Metropolitan Municipalities and there is the conspicuous absence of training institutions in the predominantly rural provinces of the North West, Northern Cape, Mpumalanga and Limpopo.

The research design was a qualitative review of literature pertaining to graduate competencies, the degree offerings of South Africa's BE training institutional and BE industry needs. The latter was articulated through; (i) SANRAL Routine Road Maintenance Division (RRMD), (ii) SANRAL Corporate Human Resources (Corporate), (iii) the Institute of Landscape Architecture in South Africa – Gauteng (ILASA), (iv) Consulting Engineers South Africa (CESA), and (v) the Institute of Municipal Engineering of Southern Africa (IMESA). A structured interview schedule was the vehicle which the study delved deeper for clarification on matters raised at the interviews

The findings of this study broadly illustrates that the issues and problems that arise around the concepts of graduate competencies and the workplace requirements and how they are resolved in the BE in South Africa are not significantly different from the situations in other countries. The developed countries of North America and Europe and the emerging nations of the Asian Pacific realm consider the issues of competencies seriously in the areas of individual, institutional and national development as these have proven significant impacts on their competitiveness globally. In contrast, South Africa's political deployment of people to Government positions of authority appears to be devoid of considerations for the competencies of appointees. There are cases of municipality engineering departments

headed by non engineers. Violent infrastructure and service delivery protests are some of the consequences of incompetent and poor civic and political leadership.

Regarding the graduates' competency to execute what they are trained to do, the study findings point to the concerns that BE graduates have theoretical knowledge but were not 'work place ready'. The consensus was that graduates lacked skills and attributes that were required by BE employers from the onset and in some cases on the job remedial training was necessary. This is not unique to South Africa but is a global challenge.

The second question posed by the study was, did BE graduates live up to the expectations of industry? The overwhelming view by all organisations interviewed is that BE graduates do not live up to the expectations of industry. That on average it took between three to five years before the BE graduate could confidently be authorised to manage aspects of the workplace on their own. And often graduates did not work long enough with an employer to gather meaningful experience. Furthermore, it was noted that BE graduates study through university training systems that do not adequately address soft skills that are essential to be workplace ready. Once again this is a problem that is faced by many countries.

The third study probe was how does BE industries address the competency gaps at the workplace? Industry solutions included; supervised in-house and external training and retraining of graduates, in-house management systems, supervision by senior professional staff who acted as mentors and ensuring that Continuous Professional Development (CPD) is executed as required by BEPCs. However, strategies for closing the competency gap are ad hoc; some industry have compulsory workplace systems in place and other leave this process to the discretion of the graduate. There are a number of models of addressing the competency gap at training institutions and the workplace globally but many of which have not been tried out in South Africa.

There was the question of what the CBE and other BE stakeholders could do to improve competencies and meet BE industry's needs. The CBE is expected to provide an enabling

and level playing field for all stakeholders to facilitate seamless interaction between graduates, workplaces, training institutions, BEPCs and other BE stakeholders. There is a further view that when the CBE is executing its mandates it should take cognisance that the BE fraternity is diverse in the number of its professional members, financial standing, the number of employees, experience and exposure, race and gender composition, Vas support in place etc. That the CBE should offer solutions that accommodate this variety in the BE. The CBE was further urged in its 'good governance' oversight to challenge BE entities that were suspected of not delivering their specific mandates. Regarding other BE stakeholders, i.e. trainers, graduates, workplaces, municipalities, government entities etc the view was that they should meet more frequently to address the issues around the 'competency gap' and how they can be overcome and be improved upon. It was recommended that other stakeholders who employ BE graduates should be studied with a view to presenting their picture of the 'competenc' situation in their context.