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Bridging the Gap: Practice and Academics in Quantity Surveying in Nigeria

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Abstract: A gaping gap exists between the academics of quantity surveying and its application in practice. But of even greater concern are two wider and more dangerous gaps – between our actual academic scene and what it should have been, and also between our actual practice scene and what it should have been. Until we take care of these two gaps, we cannot genuinely plug the gap between professional practice and the academy. In other words, we must first revamp both our education and practice, before going ahead to define the real gap between the two, and try to discern the actual need to bridge the actual gap. To begin with, the gap between the profession and the academy is not entirely unhealthy – it has some natural, unavoidable and even desirable differences. They should therefore function as complementary to each other. The academy, ideally, should have two clear goals: (i) preparing students for doing good justice to the profession, and (ii) suggesting and seeking improvements, turnarounds and new horizons for this exalted profession. Unfortunately, the academy currently fumbles even at the first goal, due to various reasons, and hardly even thinks of achieving the second goal. Our universities and polytechnics are supposed to be centers of learning *'of high thought and pioneering philosophy'* which, imbibed in our students, should ultimately guide and mould the profession. There is ample doubt if this idea is clear to all in the academy, which explains why our institutions today operate without philosophy other than to *just* graduate. As a result, they are vague regarding the focus and goal of teaching. Several factors are responsible for this scenario. This research set out to identify these factors and proffer useful suggestions for bridging the gap. A survey approach was adopted, and questionnaire was used to collect data from quantity surveyors in the academics and practice in Lagos-Nigeria, which has a good concentration of quantity surveying practitioners and academics like no other in the country. 'More theoretical knowledge than practical', 'slow adoption to innovations', 'inadequate school curriculum' and 'inadequate training' emerged as major causes of the gap that needs bridging. The research identified possible solutions which included: 'be more receptive/open to new innovations', 'organize frequent workshops, seminars, lectures, conferences', 'find equilibrium between theoretical and practical knowledge', 'encourage learning on-the-job', and 'embrace new IT innovations', among others. Future research on this subject will help expand the horizon for further discussions.

Keywords: quantity surveying, academics, academy, education, gap, deficit, bridging, solution, field, practice, construction industry, profession.

Introduction

Our academy should stay focused on set goals and teach well, globally, at *'stage one'*. At this stage, quantity surveying is a complex skill that combines and synthesizes routine knowhow, special skills and a dose of genius. There are some basic skills that simply cannot be taught but are acquired along the way. In addition to the basic skills of learning methods, materials, techniques, history, awareness, and exposure, the student must learn a lot of engineering, information, technology, psychology and sociology. Our institutions need to just teach these things well, in a balanced manner. There is a big gap here, because currently our universities and polytechnics are not teaching well. And then for *'stage two'*, we need to remember that even after all the changes the world has undergone, teaching remains a very special vocation; not a mere profession. Just like quantity surveying itself, teachers have to be ***special***. And the entire system must help them to be special. Only then, will the academy be able to play its role - a pathfinder's role, the role of a guardian even to the profession. Unfortunately, there is a sense of rush in today's quantity surveying practice, propelled in part by an atmosphere of 'immediate service' without concern for *'style'*, and a sense of 'competition' without care for *'finesse'*. Waste reduction, which should be a major concern of the professional quantity surveyor (QS) gets swept away in the rush, only to resort to another rush aimed at salvaging what was lost at inception, which leads him down the familiar path of damage control even before the project gets under way. The QS profession has shown little interest in genuine research, with most of our research work remaining on paper. QS practitioners are not writing enough, not speaking enough and not thinking enough about bettering the lot of the profession. They are just busy keeping up with the trend! To remain relevant and on top of its game, the QS profession must take deliberate steps to ensure that its practitioners and academicians align and play their complementary roles in order to beef up its overall performance for better results.

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Advent of Quantity Surveying Academy in Nigeria

Global competition remains the driving force that helps service industries strive towards better service delivery and higher productivity. Like most other germane sectors of the economy, the construction industry is built on education and training - the quantity surveying profession is no exception to this reality. It is a profession that dates back to the nineteenth century (Akintayo *et al.,* 2012). The history of the rise and growth of quantity surveying profession and education in Nigeria is well presented in a Report prepared by United Nations Educational, Scientific and Cultural Organization (UNESCO)/United Nations Development Programme (UNESCO/UND, 1987). The report highlighted how the profession and education, as offshoots of Britain, started with only four higher institutions offering quantity surveying courses in Nigeria, namely; Ahmadu Bello University Zaria, Yaba College of Technology Lagos, Kaduna Polytechnic Kaduna and Auchi Polytechnic Auchi, all producing 15 graduates and 45 diploma holders annually. Quantity surveying education has grown over time, and broadened in scope, from four foundation institutions to about 20 Polytechnics and 40 Universities which now offer quantity surveying courses with thousands now graduating annually. So the problem is no longer the dearth of quantity surveying graduates, but the quality of graduates our institutions churn out annually.

Even as the number of institutions, educators and students has continued to increase and widen, there is no clear evidence of commensurate widening or deepening in the scope of the quantity surveying syllabus to meet current needs and demands of the profession. The Nigerian curriculum has relied solely on that of its colonial masters, Britain, with little or no adjustment to its scope over time. Even the curriculum designed in developed economies like Hong Kong for modern development still falls short (Wong *et al.,* 2007). By the reckoning of Souza and Thwala (2013), the QS curriculum designed for use in South Africa has remained stagnant and therefore unable to keep track of its industrial expectations. A history of deficit exists between the academic modules in place and the global industrial needs.

Advent of Quantity Surveying Practice in Nigeria

The history of quantity surveying practice in Nigeria has its origins in few privileged Nigerians who acquired their QS education and industrial experience in the United Kingdom (UK) and returned to establish the Nigerian Institute of Quantity Surveyors (NIQS) in 1969 (NIQS, 2004). In letter and configuration, the new body bore (and i dare say still bears) the likeness of its mother body, the Royal Institution of Chartered Surveyors (RICS) of the UK (Oke *et al.,* 2013). The rise of quantity surveying as a vocation and practice in Nigeria has solid roots in the UK, as succinctly explained by the UNESCO/United Nations Development Programme (UNDP, 2004). However, control of quantity surveying practice in Nigeria was crystallized through the establishment of the Quantity Surveyors Registration Board of Nigeria (QSRBN) under Decree No 31 of 1986. This umbrella body has since assumed the responsibility of controlling and monitoring QS practices in Nigeria to date.

Jagboro (2016) described the QS as a construction cost expert who plans, controls project costs, serves as contract manager, and negotiates tendering and project budgets. Over time, there have been noticeable changes in the QS practice, especially in procurement, project management and information and communications technology (ICT). Increasing complexity in modern construction has necessitated specialization (Ameh and Odusami, 2014), which should compel changes in QS academic training that matches changes in the field of practice. The evolving construction techniques demand flexibility and expansion of knowledge of building services from its present level to mitigate the negative toll on quantity surveyors in the industry (Oke *et al.,* 2010). Trends in globalization demand nothing short of a match between knowledge acquisition and practice. Quantity surveying knowledge and skills must tally with industry needs. Like in most developing countries, South African quantity surveying graduates are confronted with the challenge of churning out quantity surveyors that are not employable because of the gap existing between training and practice (Souza and Thwala, 2013). On-the-job training and experience alone are not enough to match expectations (Smith, 2001). Even the introduction of Student Industrial Work Experience Scheme (SIWES), with a time span of 6 - 12 months for students, is not enough to bridge the gap, considering its brevity.

Statement of the Problem

With this mounting challenge, it is expected that new curriculum will be enriched to enhance knowledge and skill acquisition. Sadly, Olusoga (2006) has observed that older generation of quantity surveyors are more grounded in costing, cost control and project monitoring than the present day QS! This is traceable to the quality of academic knowledge acquired in our institutions these days, in addition to the disposition of students themselves towards learning. This reality constitutes a major stumbling block to QS productivity and service delivery. Productivity in itself is a function of many factors. Performance evaluation pertaining to productivity is a basic need (Oke *et al.,* 2010). For instance, technology impacts client needs and project delivery techniques (Usman, 2012), which in turn requires professionals to be more flexible and open to new innovation and techniques (Odubiyi and Oke, 2016).

Furthermore, academic courses should be reinforced by tapping on ICT-related innovations suitable to the construction industry such as the Building Information Model (BIM). This is the type of knowledge acquisition that can produce employable quantity surveyors fit for field experience.

In today's context, quantity surveyors ought to be trained managers of projects, but are unfortunately lacking in the basic knowledge that will usher them into the mainstream, which is only possible through a conscious change in the fundamentals of educating professionals in the built environment (Ameh and Odusami, 2014). The authors observed a deficiency in project management-related courses and suggested their inclusion in the curriculum of each discipline at undergraduate levels, and equally in courses aimed at boosting professional competence sponsored by professional bodies such as the NIQS.

Methodology

The methodology adopted for this study is the quantitative survey approach with structured questionnaire as the research instrument. Quantity surveying practitioners and educators were the target population of the research. Location of the research was Lagos, Nigeria - home to large concentration of practicing quantity surveyors, and also home to the oldest Nigerian polytechnic (Yaba College of Technology). A total of 100 questionnaires were randomly dispatched to the respondents from a list of registered quantity surveyors obtained from the Lagos Chapter of the NIQS. The questionnaire was structured in two parts with the first part focusing on respondent's background information. The second part of the questionnaire contained a Likert scale of 1 to 5 listing the various factors responsible for the gap between academics and practice quantity surveyors which require bridging; with scale 5 being 'very high', 4 being 'high', 3 being 'average', 2 being 'low', and 1 being 'very low'. Of the 100 questionnaires dispatched through hand delivery and by email, 54 were retrieved. After sorting, 5 were invalid and 49 were duly completed, and became the raw data for this research. 49% response rate was deemed reasonable for the research.

Data collected on the background of the respondents was analyzed using percentage, and Mean Item Score was used in analyzing the data collected for the research objective. Reliability of the questionnaire was tested using the Chronbach's Alpha Test which produced an alpha value of 0.823 and 0.725 respectively for the factors addressed; thereby showing high reliability of the questionnaire used for this work. For determining consistency in the opinion of the different research respondents sampled, Mann Whitney U-Test, a nonparametric test, was used. According to Pallant (2005), this test is most suited for testing the significant difference or relationship existing in the opinions of two groups of respondents. Supported by these formulas:

(1) Chronbach's Alpha Test Formula

$$\alpha = \frac{N*c}{v+(N-1)*c} \quad \text{.....Equation 1}$$

Where, N = number of samples
c = average inter-item covariance among items
v = the average variance

(2) Mann Whitney U-Test

$$U_1 = R_1 - \frac{n_1 (n_1 + 1)}{2} \quad \text{.....Equation 2}$$

Where, n_1 is the sample size for sample 1, and
R_1, is the sum of the ranks in sample 1.

Data Collection

The demography displayed in Table I shows 59.2% of the respondents were QS practitioners, and the balance of 40.8% were QS academics. B.Sc/B.Tech graduates constituted 49% of the research strength, and 30.6% were HND holders, and 20.4% post graduate holders. Only 24.5% of the respondents had field experience below 5years. More than 75% of the respondents have considerable field experience in the quantity surveying profession (as academics and practitioners - well beyond 5years) to make meaningful contribution to the research.

Table I - Demographic Characteristics of Research Respondent

Description	Frequency	Percentage (%)	Cumulative %
Questionnaires Returned			
Academics	20	40.8	40.8
Practice	29	59.2	100.0
Qualification of Respondents			

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HND Holders	15	30.6	30.6
B.Sc/B.Tech Holders	24	49.0	79.6
Post-Graduates	10	20.4	100.0
Working Experience			
0 - 5 years	12	24.5	24.5
5 - 10 years	26	53.1	77.6
Above 10 years	11	22.4	100.0

Analysis of Results

Table II provides the mean scores (*MSi*), *z-value* and significant *p-value* ascertained from Mann Whitney U-Test for the factors responsible for the gap between QS academics and practice identified by the research respondents. With a confidence level of 95% and p-value of 0.05, Mann Whitney U-Test was used to ascertain if there exists any significant difference in the view of respondents (academics and practicing quantity surveyors) regarding the factors listed as major causes of deficit. Table II shows that all p-values are significantly above 0.05, which serves as proof that there is no significant difference in the views of practicing and academic quantity surveyors in connection with the factors causing gaps. The high value of mean scores on the table shows, to a large extent, that the respondents are persuaded in the same direction on the impact of the factors identified.

Specifically, of the eight most significant factors identified as causes of gaps, three factors namely: *more theoretical knowledge than practical, slow adoption of innovations* and *inadequate school curriculum* emerged the most influential factors causing gaps with mean scores of 4.63, 4.21 and 3.98 respectively. These were closely followed by *inadequate training* (MS = 3.96), *limited exposure to IT innovation* (MS = 3.91), and *discipline in academic training* (MS = 3.86). *Inadequate qualifications* and *brevity of SIWES period* brought in the rear with mean scores of 3.52 and 3.24.

Table II - Most significant factors responsible for the gaps

Variables (Factors)	MSi	Rank	z-value	p-value
More theoretical knowledge than practical	*4.63*	*1*	*-1.527*	*0.379*
Slow adoption of innovations	*4.21*	*2*	*-1.102*	*0.278*
Inadequate school curriculum	*3.98*	*3*	*-0.967*	*0.515*
Inadequate training	*3.96*	*4*	*-1.161*	*0.286*
Limited exposure to IT innovation	*3.91*	*5*	*-0.915*	*0.151*
Discipline in academic training	*3.86*	*6*	*-1.907*	*0.582*
Inadequate qualifications	*3.52*	*7*	*-0.792*	*0.435*
Brevity of SIWES period	*3.24*	*8*	*-0.685*	*0.533*

The outcome supported findings of previous studies such as: Olusoga (2006) who found that Nigerian quantity surveyors of older generation are more grounded in costing, cost control and monitoring of building projects than the present day graduates who are mostly lacking in knowledge and skills; Yageshwaran *et* al (2018) who found that Sri-Lankan QS education is not meeting up with industry expectations due to apparent lack of basic knowledge and skills which is traceable to inadequate formal education; and Souza and Thwala (2013)'s study which found that QS graduates in South Africa are ill-equipped for workplace occasioned by an inadequate school curriculum that has failed to recognize rapid changes in the built environment.

This recognition is a basic prerequisite for preparing and positioning QS graduates for their primary function in the field of practice (Olanrewaju and Anavhe, 2015). However, this research will be of less value if it stops at this finding without going a step further to identify possible solutions towards bridging the gap between QS academics and practitioners. Consistency in the opinion of respondents was ascertained using the Mann Whitney U-Test with a null hypothesis (H_0) that says: there is no significant difference between the respondents; and the alternative hypothesis (H_A) that says there is a significant difference between the respondents (academics and practicing QSs). With a significance level of 95% (p=0.05), the calculated values of p for 8 pairs of data in Table II are all greater than the value of p. Consequently, the null hypothesis (H_0) which says there is no significant difference in the ranking

of factors between the respondents is accepted. And the alternative hypothesis (H_A) which says there is significant difference in the ranking of factors between the respondents is rejected. From the analysis of data, it was concluded that most respondents (QS academics and practitioners) have same perception about the factors causing gaps.

Table III - Most significant solutions identified by Respondents

Variables (Factors)	MSi	Rank	z-value	p-value
Be receptive and open to new innovations	*4.78*	*1*	*-1.098*	*0.215*
Organize frequent workshops, seminars, conferences, lectures. etc.	*4.61*	*2*	*-0.521*	*0.768*
Find equilibrium between theoretical and practical knowledge	*4.52*	*3*	*-0.285*	*0.618*
Encourage learning on-the-job	*4.33*	*4*	*-0.438*	*0.509*
Acquire higher educational qualifications	*4.29*	*5*	*-0.107*	*0.706*
Embrace new IT innovations	*4.18*	*6*	*0.000*	*1.000*
Align academic and filed concepts	*4.03*	*7*	*0.635*	*0.635*
Extend SIWES Time-span	*3.96*	*8*	*0.117*	*0.117*

Table III reveals that *being more receptive and open to new innovations, organizing frequent workshops, seminars, conferences, lectures, etc.* and *finding equilibrium between theoretical and practical knowledge* are the most important variables identified with huge capacity for bridging the gap between academic quantity surveyors and those in practice. All three variables recorded very high mean scores of 4.78, 4.61 and 4.52 respectively. Closely in fourth and fifth positions are *encourage learning on-the-job* and *acquire higher educational qualifications* with equally high mean scores of 4.33 and 4.29 respectively. Respondents gave a high rating to "embrace new IT innovations" and "align academic and field concepts" with scores of 4.18 and 4.03. Only the last variable: "extend SIWES time-span" had a mean score of 3.96 (below 4.0). This shows how highly these factors were rated and ranked in the reckoning of the research respondents as the factors capable of bridging the gaping gap between QS in academics and practice. The author shares in their optimism.

Conclusion

This research set out to find ways of bridging the gap existing between QS in academics and QS in practice. Using a survey design, the causes of gap were identified. Also identified were solutions for bridging the gap. The two categories of respondents (quantity surveyors in practice and academics) were in agreement that the most important factors responsible for the gap are: "the acquisition of more theoretical knowledge than practical", "slow adoption of innovations", "inadequate school curriculum", and "inadequate training." They also came up with a list of probable solutions that could help in bridging the gap, namely: "be open and receptive to new innovations", "organize frequent workshops, seminars, conferences, lectures, etc.", "find equilibrium between theoretical and practical knowledge", "encourage learning on-the-job", and "embrace new IT innovations" , among others. The outcome of this research confirmed the author's initial fears that all is not well with both the academy and practice of quantity surveying in the Nigerian built environment. The actual academic and practice scenes have gaps that need bridging. One of the gaps in the QS academy is the inadequacy of school curriculum which has remained stagnant and failed to adjust to new technologies. Another example is the existence of more theoretical than practical content in the knowledge acquisition. The ideal thing is for the academy to impart knowledge that is easy to adapt in practice. This way, the academy and practice complement each other seamlessly. Hence the need to 'find equilibrium between theoretical and practical knowledge' as suggested by the research. The academy must embrace new IT innovations and realign teaching methods and techniques towards making practical adaptation smooth. Moreover, QS practice will not continue to stagnate if practitioners are more open and receptive to new innovations that have the potential of sharpening their skill sets. And learning on-the-job will enhance rapid growth in practice. It needs no emphasis that frequent workshops, seminars, conferences, lectures, etc. facilitates bridging the gap between theory and practice. This research has contributed to the body of knowledge and stands as data for further research on this subject.

Recommendations

The research found that the academy is not simulating the practice environment and not producing students fit for the profession. On its part, the profession is negligent and oblivious of the academic potential of help and enrichment. Therefore, the academy should involve more and more professionals to interact in the studio/practice workshops, get feedback about their students and get advice about the need of syllabus synchronization and teaching stress. The academy must strive to stay well informed on both the theory and philosophy, in order to be able to offer valuable advice to the profession. On its part, the profession should regularly invite and involve academicians both in their live projects and also to simply learn about the 'new schools of thought' and 'latest developments and ideas'. The national or local bodies of quantity surveying and quantity surveying students can do a lot in this respect. Regular interaction is both necessary and possible. Research, not necessarily individual doctoral research on some superfine subjects to acquire personal qualification, but real and meaningful joint research for better quantity surveying product is the common point where the academy and the profession must collaborate. The initiative and the fund should come from like-minds that have shown open willingness to promote symbiotic growth.

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