The Pedagogy and Practice of Real Estate Management in Nigeria: Entrepreneurial Perspectives

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Thesis Abstract

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In recent years, entrepreneurship education has become a prominent issue in the Nigerian education system. The learning and teaching of entrepreneurship in the country takes a top-down approach in which basic business start-up skills are taught to all students in a generic course irrespective of their specific disciplines. At the moment no consideration has been given to embedding entrepreneurial skills within the specific disciplines**.** This approach does not develop the learners' ability to become entrepreneurial in the context of the knowledge gained in the disciplines. The question of interest in this research therefore is: *how should the teaching and learning of entrepreneurship improve the quality of graduates and ultimately enable them to become entrepreneurial in the practice of Real Estate Management (REM)?*

The research particularly examined the gaps in the learning, teaching, and assessment (LTA) of REM in six Nigerian universities, how the gaps in learning relate to gaps in practice, and the nature of curriculum innovations which will help to close the gaps. Consequently, the research uses a case study of a core REM course, Property Valuation, to demonstrate the curriculum innovations.

The research adopts a mixed methodology to explore the associated research questions and objectives as follows: critical review of the literature to explore entrepreneurial ideas and some issues in entrepreneurship and learning-related concepts; critical analysis of documents on national and university curricula for REM education and professional standards; questionnaire survey of current LTA experiences and practices of REM academics, students and the opinions of REM practitioners about gaps in practice revealed by young REM graduates; focus group debate on the links among entrepreneurship, REM education and practice; and a case study to demonstrate the LTA innovations in a core REM course (Property Valuation).

The data analysis procedures consist of frequency distributions of the observed responses to close-ended questionnaire items, descriptive statistics and hypotheses tests of the opinion scores related to the items, and qualitative discussion of the open-ended questionnaire items and transcript of the focus group debate.

The research findings reveal the existence of key learning gaps in REM education, especially entrepreneurial learning gap associated with the ability to use disciplinary knowledge in problem solving in the society. Young graduates manifest these learning gaps in REM education in their employers' organizations**.** Insights from the gaps in the learning and practice of REM were used to develop a new curriculum that will help to close the gaps, and the curriculum innovations were demonstrated in a case study of a core REM course (Property Valuation) across all levels of the REM curriculum.

The thesis makes a major contribution to higher education research, pedagogy and practice in the sense that it is the first study that looks at embedding the learning of entrepreneurial skills into the REM curricula, across all levels of learning a core REM course. The entrepreneurial curriculum discussed in the case study can be adapted to other REM courses, different university courses in Nigeria and similar developing countries.

Declaration

I certify that the substance of this thesis has not been already submitted for any degree and is not currently being submitted for any other degree. I certify also that to the best of my knowledge any assistance received in preparing this thesis and all the sources used have been acknowledge and referenced in this thesis.

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Finally and most importantly, I thank the Almighty God for giving me the wisdom, strength and enablement to start and finish this PhD programme.

Dedication

This dissertation is dedicated with utmost affection to:

My beloved husband Chika and my children namely Chisom, Chuzzy and Ifeatu

My late father Chief John Ezechukwu Onuorah

who passed on just a few months before the final submission of this thesis.

May his soul rest in perfect peace. Amen!

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Abbreviations

Item	Interpretation
BMAS	Benchmark Minimum Academic Standards
CPD	Continuous Professional Development
ESVARBON	Estate Surveyors and Valuers Registration Board of Nigeria
FUT	Federal University of Technology
HEI/HE	Higher Education Institution/Higher Education
ICT	Information Communication Technology
LTA	Learning, Teaching and Assessment
MAS	Minimum Academic Standards
MCPD	Mandatory Continuous Professional Development
NBTE	National Board for Technical Education
NIESV	Nigerian Institution of Estate Surveyors and Valuers
NUC	National Universities Commission
OA, QA, RA	Objectives, Questions and Results for Academics
Objs or OBJs	Objectives
OP, QP, RP	Objectives, Questions and Results for Professionals
OS, QS, RS	Objectives, Questions and Results for Students
QAA	Quality Assurance Agency
REM	Real Estate Management
RICS	Royal Institution of Chartered Surveyors
RQs	Research Questions

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CHAPTER 1: INTRODUCTION

This chapter presents a background and rationale for the study, the aim and objectives, with key research questions linked to the research objectives.

1.1 Background of the study

Tertiary education in Nigeria is presently faced with a myriad of problems ranging from overall policy origination in education matters, to programme implementation pertaining to learning, teaching and assessment issues at Higher Educational Institutions (HEIs) and manifestation of practical skills in the industry. Critical issues in the HEIs are declining academic standards, poor educational infrastructure, ineffective curricula and assessment systems which lead to low quality of graduates and high graduate unemployment (Ezepue, 2008).

Part of the problem has been attributed to inability of graduates to utilize the tacit and explicit knowledge gained from higher institutions in an entrepreneurial way (Ezepue 2008).

The government has realised that solution to the current high level of graduate unemployment lies in the private sector and consequently the need for the HEIs to produce graduates with entrepreneurial skills which facilitate job creation (NBTE, 2007). To this effect, all tertiary institutions in Nigeria are directed to establish Entrepreneurial Study Centre to co-ordinate the teaching of Entrepreneurship Education Courses as well as facilitate Entrepreneurial Development in HEIs in Nigeria.

The National Universities Commission (NUC) is the authority responsible for orderly development and ensuring high standard of university education in Nigeria. By Decree (Act) No. 48 of 1988, the Commission was empowered to lay down minimum standards for all programmes taught in the Nigerian Universities. In order to adapt the higher education curriculum to innovations in ICT and 21st century knowledge economy, the Commission initiated a process for review of the Minimum Academic Standards (MAS) in all academic programmes in Nigerian universities. This led to the emergence of a set of Benchmark Minimum Academic Standards (BMAS) documents, each of which "crisply enunciates the learning outcomes and competencies expected of graduates of each academic programme without being overly prescriptive while at the same time providing the requisite flexibility and innovativeness consistent with a milieu of institutional autonomy” (NUC, 2007).

The new BMAS 2007 provides a paradigm shift from highly prescriptive, content based MAS 19997 to outcome based academic system and expects each programme to produce a curriculum that not only complies with the original Minimum Academic Standards (MAS)

but also exposes students to wider range of knowledge that integrates entrepreneurship studies, (Okojie, 2008). Effective implementation of the new policy as provided by the new BMAS requires restructuring the discipline based curricula towards realising a paradigm shift in the style of the teaching and learning process. To meet and even surpass set quality standards, it is imperative for innovations to be built into the design of teaching and learning process right from the disciplinary level. The desire for innovations are all geared towards producing high quality graduates that are more relevant to the industry and can compete favourably in the global arena.

This study explores required innovations in the teaching and learning of real estate management in Nigeria. The aim is to produce a curriculum that enhances students' ability to use the technical knowledge acquired from the HEIs more entrepreneurially on graduation from university.

1.2 Rationale for the study

There are two key rationales for this research. Firstly there is the need for the higher education (HE) systems in Nigeria to innovate the learning, teaching and assessment (LTA) processes in order to produce graduates endowed with entrepreneurial skills. Secondly, there is the need to embed entrepreneurship education in the Nigerian universities to enable embedding of entrepreneurial learning the curriculum of specific disciplines like real estate management.

The President of the Nigerian Institution of Estate Surveyors and Valuers in his 2008 Inaugural Speech to the Education Committee deplored the lack of enterprise and business skills in real estate management curriculum. This remark reinforces the need to upgrade and expand real estate management curriculum to integrate entrepreneurship ideas.

Though the study is focused on innovations in the teaching and practice of real estate management, the results can also be applied to other disciplines in the Built Environment e.g. architecture, quantity surveying, urban and regional planning. The principles can also be more widely adapted to any other discipline with a particular focus on the kind of subject-matter involved.

The significance of the research consists in the fact that there is limited work on the link amongst entrepreneurship and real estate management education and practice in Nigeria. Understanding the gaps in the teaching and learning of the discipline and how such gaps impact on professional practice will enable Nigerian HEIs to effect curriculum improvement that will make university education more effective and improve the quality of graduates.

1.3 Statement of the research problem

A major problem with higher education in Nigeria (similar to other developing economies) is the disconnection between **knowledge acquisition** from higher educational institutions and **translation** of such knowledge into practice on the part of the graduates. The problems are summarised as follows:

Students are exposed to concepts in different disciplines or sub-disciplines and courses like entrepreneurship and creativity without any systematic link to how to solve problems using the constructs of the disciplines. This limits their practical application of knowledge of such constructs.

Consequent upon the disconnected pedagogy, students see each course as distinct and are not made to see the broad areas of application of their training and the traditions of thinking in those areas. For example, just recently, entrepreneurship was introduced as a general studies course (GST) for all the programmes in the HEIs in Nigeria. The course curriculum is generic to all the disciplines and is taught as a distinct borrowed course meant to teach students how to be self employed by starting up new businesses. In most cases the learner is not able to see how the lessons link with their core programme of study in the university.

Discussing entrepreneurship ideas as part of a general stand-alone course means that the ideas are less effectively embedded in the curriculum. It is expected that additional to such general courses that introduce the core concepts of entrepreneurship, further links between the ideas and core concepts learned in the programme of study in the university should be developed.

For example, in real estate management students completing such core courses as property valuation, feasibility and viability appraisals, land economics, property/facilities management or any other core REM course should be encouraged to understand how the entrepreneurial skills are demonstrated through the core concepts of those courses. This may be achieved through assessments, seminars and (group) projects that require students to reflect on the links between entrepreneurship ideas, core concepts of real estate management learned from various courses and professional practice.

The aim is to continually reinforce entrepreneurship and professional practice ideas across the curriculum. This also requires adapting the general entrepreneurship course to real estate management curriculum by using real estate management examples in the course. These kinds of innovations in the curriculum are currently lacking in the real estate management education in Nigerian universities.

In effect, a question of interest in the research is as follows: how should the teaching and learning of entrepreneurship improve the quality of real estate management graduates and ultimately enable them to be entrepreneurial in the practice of real estate management?

1.4 Aim and objectives of the study

The aim of this research is to explore the gaps in REM education and the pedagogical innovations required to close the gaps, with a view to producing a new curriculum that enables the learning and practice of the discipline to be entrepreneurial.

The specific objectives of the research are:

1. To explore the wider literature on entrepreneurship ideas; this will underpin effective introduction of the ideas in real estate management education. Examples of such ideas are the key concepts, entrepreneurial mindset and attributes, and issues in entrepreneurship education.
2. To explore some issues in real estate management education such as the traditional curriculum (current LTA strategies), conceptions of learning, and learning outcomes, in order to examine possible gaps in the learning, which if addressed in a new curriculum would improve the quality of graduates.
3. To review the professional standards guiding real estate management practice in Nigeria and survey practitioners' opinions about possible gaps in practice revealed by employees (young graduates) of real estate management.
4. To critically evaluate insights from 1-3 above in order to establish the links amongst entrepreneurship ideas, real estate management education, and professional practice. This evaluation will examine how the gaps in learning relate to the gaps in practice and how innovative REM education will help to close the gaps.
5. To demonstrate the innovative REM curriculum using a core real estate management course as a case study e.g. property valuation or property management.

1.5 Key research questions

Ideas gained from Objectives 1-5 above will enable the researcher to answer the following key research questions (RQs).

RQ1:

How best can entrepreneurship ideas be embedded in REM curriculum in order to improve the quality of REM graduates? In other words, how do entrepreneurial competencies inform LTA strategies in REM education? (Objectives 1 and 2).

RQ2:

What are the gaps in professional practice revealed by REM graduates as observed by experienced REM practitioners? What are the links between entrepreneurship ideas and professional standards in REM practice? Hence, how does entrepreneurship education address those gaps? (Objectives 1, 2 and 3).

RQ3:

How are gaps in the teaching and learning of REM related to gaps identified in the professional practice? Hence, what improvements in the curriculum are required to address the gaps? (Objectives 4 and 5).

RQ4:

What is the essential nature of a new curriculum which achieves the above innovations and how could the curriculum be implemented in specific REM courses, using a case study of a core course? (Objective 5).

1.6 Structure of the thesis

The thesis is presented in eleven chapters. Chapter 1 provides the overview of the research context and the justification for the study. The chapter starts with background information and the rationale for the study, brief statement of the research problem culminating in the aim, objectives and key questions addressed by the research.

Chapters 2 and 3 present the overall review of literature about different aspects of the study. The review is organised in relation to the key research issues namely entrepreneurial concepts and entrepreneurship education, real estate management education and the professional practice standards.

Chapter 4 presents the mixed methodology for this research and the justification for the selection of the methods used in the study. The survey design, data collection and analysis strategies are also discussed in this chapter.

Chapters 5, 6, 7 and 8 present the descriptive statistics and the general analysis of the data collected from survey of the REM academics, students and real estate surveying firms in Nigeria.

Chapters 9 discusses the research results in relation to specific research questions and related objectives.

Chapter 10 presents the nature of the new and emergent REM curriculum and practically exemplifies innovative curriculum using a case study of property valuation.

Chapter 11 concludes the thesis by summarising the main research results and its contribution to knowledge. The chapter also proffers suggestions for further related research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In a forward to the report of the Global Education Initiative, “Educating the Next Wave of Entrepreneurs” Klaus Schwab (2009), the founder and chief executive of the World Economic Forum clearly spelt out the interconnectedness between entrepreneurship and education. Entrepreneurship is the engine that fuels innovation, employment generation and economic growth, while education has the power for generating an entrepreneurial mindset. The need to leverage opportunities presented by education and entrepreneurship, by using entrepreneurship education as means to develop the kind of human capital requirements which are well equipped with skills, attributes and behaviours for entrepreneurship in various areas of endeavour for development was emphasized.

Nigeria has huge potential for achieving human capacity building, youth empowerment and economic development through entrepreneurship education, but this cannot be actualized with the variable challenges in the higher educational system mentioned in the introduction to this thesis. The content (curriculum) and method (pedagogy) of teaching in most Nigerian universities, judging by the 21st century standards, are outdated and not responsive to industry requirements. Such long festering problems result in ill-trained and poor quality graduates who are not adequately equipped to function effectively on graduation from the higher educational system. In attempt to mitigate these problems Nigeria recently embarked on education reforms with new policies to innovate the higher education system. One of the key reform initiatives for qualitative and functional higher education is the introduction of entrepreneurship education in all programmes offered in Nigerian tertiary institutions. In furtherance to this initiative, the National Council on Education, at its 53rd meeting held in Calabar, Cross River State of Nigeria in 2006, directed the higher education supervisory agencies (NUC AND NBTE), to produce appropriate training documents for effective and efficient delivery of entrepreneurship education programme in the tertiary education system in Nigeria. As a follow-up on the Presidential Education Summit held at Abuja in October 2010, the President, Dr. Goodluck Jonathan, gave a directive for the establishment of Entrepreneurship Studies Centres in all the Nigerian Universities.

Real Estate Management (REM) being one of the core programmes on offer in the Nigerian universities merits a study of how best to introduce entrepreneurship education in order to equip REM students with the mind-set for entrepreneurship in real estate practice on graduation from the university.

The main idea in this chapter is exploration of the literature base on entrepreneurship ideas and the concepts, attributes and issues in teaching entrepreneurship in higher education. The review explores general issues related to entrepreneurship education and innovative LTA practices in higher education setting.

2.2 Review of literature on entrepreneurship ideas and issues in entrepreneurship education

This section presents the review of literature on entrepreneurship ideas and related issues such as entrepreneurial mind-set, skills and attributes; enterprise skills and mind-sets; and issues in entrepreneurship education. Understanding of such concepts underpins effective introduction of the entrepreneurship ideas in real estate management curriculum.

2.2.1 KEY ENTREPRENEURIAL CONCEPTS, MINDSETS AND ATTRIBUTES

Concepts of Entrepreneurship

A review of entrepreneurship literature reveals that entrepreneurship is a process of creative newness. Ireland, Hitt and Sirmon (2003) suggest that such newness is viewed from two perspectives namely: newness that refers to new products, new business models and new markets as a means of wealth creation (Schumpeter's school of thought (1934) and newness that refers to creativity, innovation, turnaround and growth within an organisation (Drucker's school of thought (1985). Scholars that view newness from the perspective of creativity and innovativeness argue that entrepreneurship is not just about new venture creation but involves being innovatively creative within an existing organisation. Such scholars define entrepreneurship as a process of discovering, evaluating and exploiting opportunities; creatively originating ideas and breaking patterns, taking and managing risk, organising and co-coordinating resources (Sharma & Chrisma 1999; Bolton & Thompson, 2000; Shane & Venkataraman, 2000; Gibb, 2002; Heinonen & Poikkijoki, 2006). In effect, any act or process of new venture creation, discovering, initiating/originating new ideas, seeking and exploiting opportunities, creative newness or innovativeness that occurs within or outside an existing organisation constitutes entrepreneurship.

For the purpose of this research, we view entrepreneurship from a combination of Schumpeter's and Drucker's perspectives as a process of creative newness that results in new venture, new business models, new products, new markets, new services and being creatively innovative within or outside an existing organisation, (Ireland, Hitt and Sirmon, 2003).

Entrepreneurial manifestation can be distinguished on the basis of the functional roles of entrepreneurship entities. In this sense, individuals can exhibit entrepreneurial behaviour by setting up own businesses either solely as entre-preneurs or in partnership or association with others as co-preneurs (Dollinger, 2006; Timmons et al, 2010). Entrepreneurship can also manifest as innovation through creating and sustaining economic firms and organisation during risk. This perspective refers to entrepreneurship within an existing organisation in which sense entrepreneurship entities can manifest as intrapreneurs, (Shane & Venkataman, 2000). Like entrepreneurship, intrapreneurship is about being creative and innovative and involves activities and orientations like development of new products, services, techniques, strategies and competitive postures**.** But unlike entrepreneurship the major thrust of intra-preneurship is to manifest the entrepreneurial mindset and wealth-creating attributes **within** an existing organisation.

Reinforcing the comparison, Heinonen & Poikkijoki (2006) affirm that the entrepreneurial process and attributes comprising creating, originating, initiating, innovating and producing, a way of thinking and a mindset to achieve, are basically the same for entrepreneurship and intrapreneurship. The difference lies in the fact that entrepreneurship manifests outside while intrapreneurship manifests within an existing organisation.

The foregoing discussion gives an overview of the generic nature of entrepreneurship and manifestations of entrepreneurial behaviours. Being entrepreneurial entails acting in an entrepreneurial way by exhibiting/manifesting a set of behaviours and attributes (Bolton and Thompson, 2000). The next section summarises characteristics that depict entrepreneurial attributes.

Entrepreneurial Skills and Attributes

The literature on individual entrepreneurship characteristics includes variables that address psychological and behavioural attributes. Psychological attributes are used to predict a person’s entrepreneurial propensity and tendencies i.e. whether or not a person has a mind-set for entrepreneurship while behavioural attributes show the manifestation of entrepreneurial skills in the person's life world. Personal attributes or characteristics like value orientation, creativity, risk taking, self-esteem, innovativeness and readiness for change enhance propensity towards entrepreneurship, (Hamidi et al, 2008; Luthje & Frank 2003; Stewart et al 1999; Hatten & Ruhland 1995).

On the other hand, Heinonen & Poikkijoki (2006) recognize the following attributes as suggesting entrepreneurial behaviour or manifestation: self-confidence and creativity, task result orientation, leadership, innovative approach to problem solving; risk taking; originality and future orientation. Furthermore, Morris & Jones (1999) reported in Glassman et al

(2003) argue that additional attributes are required for effective entrepreneurial manifestation in a public organisational setting. The additional attributes include a mix of power and motivation for achievement, ability to work strategically, networking skills, personal drive and team spirit which enable co-ordination of different ideas and kinds of people to form a team of entrepreneurially minded people.

All these studies are preludes to an understanding of how entrepreneurial entities, particularly individuals, can develop entrepreneurial mind-sets and attributes.

Entrepreneurial mind-set

The Quality Assurance Agency (QAA) 2012 outlines traits that depict entrepreneurial mind-set as: personality and social identity, personal ambition and goals, personal confidence and resilience, self-discipline and personal organisation, understanding of one's motivation, ability to go beyond perceived limitations and achieve goals, tolerance of uncertainty, ambiguity, risk, and failure; and personal values like ethical, social and environmental awareness.

How then do people develop entrepreneurial traits and become entrepreneurs? The basic idea is that everyone is innately endowed with entrepreneurial traits which can be manifested by an individual's motives, skills and actions. Going by this idea, every individual is inherently entrepreneurial and cannot be more or less so. The extent to which entrepreneurial motives and actions manifests depend on cultural, institutional, business and environmental factors (Storey & Salaman, 2005; Ibeh & Ugboaja, 2008). Entrepreneurial disposition can happen by chance when people are merely carrying out multi-faceted activities perceived to have institutional support in a complex system, (George, Jain and Maltarich, 2005). Other scholars like Luthje & Frank (2003), Peterman & Kennedy (2003) and Ezepue (2008) also adduce the view that individuals can be systematically taught or trained to develop the mindset for entrepreneurship. According to them training can shift intentionality and perceptions about entrepreneurship. Irtwane (2008) & Afolabi et al (2008) have shown that training stimulates a person's interest in entrepreneurship and enhances such a person's ability to act entrepreneurially.

The forgoing literature highlights various ways individuals can develop and manifest entrepreneurial mindset. This research is based on the perspective that irrespective of natural endowment, individuals can be trained to develop and improve their entrepreneurial mindsets and attributes and that such training can be provided in formal settings like the higher educational institutions of learning.

Developing entrepreneurial mindset starts with developing self-awareness which requires a person to recognize him/herself as a creative person or someone capable of translating ideas into actions, or a person who is prepared to challenge assumptions scientifically. Any effective entrepreneurship education should seek to encourage the learner's development of such self-awareness that reinforces the development of entrepreneurial mindset and manifests in specific contexts.

The existing literature therefore addresses questions about how people develop entrepreneurially but the argument among authors about whether or not entrepreneurship should be taught is still unresolved Haase and Lantenschlaeger (2011). It also leaves some knowledge gaps about how students in a university programme like real estate management can develop the mindset for entrepreneurship in specific learning contexts, and be equipped with skills to manifest entrepreneurial behaviours within the contexts of the programme of study following graduation. This research makes contributions in these respects.

2.2.2 TEACHING ENTREPRENEURSHIP IN HIGHER EDUCATION: CONTENT AND METHODS, APPROACHES AND CHALLENGES

Issues in Entrepreneurship Education

Entrepreneurship Education refers to any programme that seeks to develop entrepreneurship awareness for career purposes and provides skills training for business creation and development (Wilson, 2008; Vesper, 1990; Toulouse, 1998). The aim of entrepreneurship education is to produce graduates who are capable of identifying wealth creating opportunities and developing ventures by applying enterprise skills and mind-set (Kailer, 2009; Sherman et al, 2008). Enterprise skills include initiating action, intuitive decision making and networking, identifying opportunities, creative problem solving, innovative and strategic thinking and personal effectiveness.

Volkmann (2009) refers to entrepreneurship education as a lifelong process for developing individuals' skills, attitudes and behaviours and plays a very important role in developing entrepreneurial graduates. The objectives of the programme include development of entrepreneurial drive among students, developing students' ability to identify and exploit opportunities and training them on skills for setting up and managing businesses.

Entrepreneurship education can take place at all levels of a formal school system, across all disciplines and even extends to the informal setting (Wilson, 2009). However, many scholars argue that HEI systems being at the forefront of innovations is in the best position to drive entrepreneurship education. Particularly, the university system plays a very important role in the areas of curriculum development, training and development of teachers,

acting as a hub for connecting students, entrepreneurs, companies and other stakeholders (Afolabi et al, 2008; Allen & Wong, 2003; Chia, 1996; Etzkowitz, 2003). Academically educated entrepreneurs are found to be more effective in developing regional economies, more innovative, use modern business models and base their ventures on new technology than those with a low level of education (Taatila, 2010, Pajarinan et al, 2006). The result is that HEIs are becoming centres of attention as drivers of entrepreneurship, (Allen & Wong, 2003).

The context of entrepreneurship education at the university system depends on the mission and strategic orientation of the university. Universities can pursue the following objectives in entrepreneurship education:

- Development of entrepreneurial drive among students including the ability to identify and exploit opportunities.
- Training students in the skills required to set up business and manage its growth, European Commission (2008).
- Additionally, Volkmann (2009) emphasize the need to encourage students to think and act entrepreneurially and ethically and to reflect entrepreneurial objectives in the curriculum, which is the primary focus of this research.

To reiterate this view, this research is particularly focused on developing a curriculum that enables training of REM students to think and act entrepreneurially in the context of the course of study in the university.

The next section explores the literature on content, methods, approaches and challenges of university entrepreneurship education.

Approaches to entrepreneurship education and corresponding challenges

Entrepreneurship education in the university has often taken a top-down multidisciplinary approach. The top-down multidisciplinary approach can be in a wider generic sense or take a narrower bottom-up model. The top-down generic approach is particularly effective if the objective of entrepreneurship education is to create awareness and sensitize students about the need for new venture creation as an alternative to employment on graduation (Volkmann, 2009).

A study by the Cornwell University in United States reported in a publication by the World Economic Forum titled *Educating the Next Wave of Entrepreneurs* (2009, p.62), typically illustrates the models of teaching entrepreneurship under the generic university wide approach. The study which involves a survey of 38 universities in US reveals that about 74% of all the universities offer the university-wide entrepreneurship programme for all the

students in the university. The study further illustrates the alternative models for structuring entrepreneurship programmes under the university wide approach - the Magnet model and the Radiant model.

In the Magnet model, a single academic unit of entrepreneurship module is offered through the university entrepreneurship centre for all students in the university and every student is expected to participate. This model has the advantage of being cost effective as all the resources and capabilities are channelled to support the planning and coordination of entrepreneurship activities by the Centre. The education takes an interdisciplinary approach which helps to establish networks and linkages among students, graduates, entrepreneurs and university members. It however has a shortcoming of focusing on the university entrepreneurship centre and not on the discipline requirements. Hence, this generic top-down model on its own is not suitable for training students with skills for being entrepreneurial within the contexts of any specific discipline of study.

In the Radiant model the entrepreneurship programmes is orientated towards the requirements of the regular study courses and adapted to the specific structure of the individual faculties. This model adopts a bottom-up approach as entrepreneurship courses are designed by faculties and colleges and made available to all the students in the faculty or college. Like the Magnet approach the Radiant model is also based on design of entrepreneurship courses with interdisciplinary orientations. However, unlike the Magnet model where the programme is organised and coordinated for all students by the University Entrepreneurship Centre, the Radiant model is organised by faculties and adapted to suit specific requirement of the participating faculties. The Radiant model is still a variation of top down approach but in a narrower form. The focus is on participating departments and faculties, unlike the Magnet model which focuses on the Central body that serves the entire university students, (a top-down approach).

The top-down university wide approach to entrepreneurship education has been criticized as presenting some problems that makes it less efficacious. One, the material may be too generic and difficult to apply to every discipline. Secondly, there is a problem of disconnect in the mindsets of business school academics (where entrepreneurship is originally well established) and those in sciences seeking to become entrepreneurs, resulting in existence of structural gaps, Pittaway & Cope (2007). Wright et al (2005) for instance note that there may be a mismatch in language used by business school faculty teachers in a science department so that they may not be able to relate entrepreneurship to non-business discipline contexts. Feit (2000) observes that issues such as whether entrepreneurship should be a topic of instruction, who should teach it, and where it should be taught are

further problems with the centralized top-down approach. This indicates a challenge to making entrepreneurship education available to all university students.

A major challenge in teaching entrepreneurship in the context of the university wide curricula is that of developing the contents and methods that encourage entrepreneurial learning within specific disciplines. This is characterized by:

- Difficulty in creating teams, taking entrepreneurs as models and developing entrepreneurial ideas;
- Difficulty in working out problem solutions and recognizing that mistakes can be learning opportunities (Volkmann, 2009). It is also more difficult in a generic approach to encourage people to act entrepreneurially and to seize opportunity to create new venture.
- Tom Byers (2005) further observes that lack of research focused on the influence of entrepreneurship education on the development of links between the university and business sector is another challenge.

The ideas in this section bring to the fore the need to relate the challenge factors with the choice of strategies that overcome the shortcomings in the design of innovative entrepreneurship curriculum.

Some of those challenges give credence to discipline based approach to entrepreneurship education discussed in the next segment.

Discipline-based approach to entrepreneurship education

There is a debate among entrepreneurship scholars as to whether entrepreneurship should be extended to non-business disciplines and to what extent. Hynes (1996) argues in favour of extending entrepreneurship education to non-business disciplines based on the fact that both business and non-business disciplines contribute to wealth-creating benefits of entrepreneurship in any society. While business schools promote the growth and development of entrepreneurship, the real potential for influencing economic development lies in non-business disciplines.

The study by Cornwell University (Op.cit, 2009) also illustrates the approach for entrepreneurship education in a discipline-based context. It describes this as a ‘focused approach’ because it offers teaching models that target disciplines in business faculties. That not-withstanding, the idea offered by the approach can be modified and extended to focus on non-business disciplines.

The above ideas constitute a focused/directed approach and targets content and delivery methods that suits specific student groups or disciplines. This makes it very effective in developing competences, entrepreneurial skills and attributes towards career options in disciplinary contexts, Johnson et al (2007) and Heinonen & Poikkijoki (2006).

Clearly, there is a huge opportunity to be realised in Nigeria if as many graduates as possible are brought into enterprise by embedding entrepreneurship in the disciplines. Consider, for instance, the problem of mass graduate unemployment in the country which is such that many graduates are unemployed several years after graduation. Not only are these graduates continuing to depend on their parents or sponsors for their upkeeps, but also there is a sense of learned helplessness in their situations, whereby in their job searches, lacking entrepreneurial mind-sets, they foreclose opportunities for meaningful self-employment, in preference for government jobs which are nowhere sufficient to cater for all of them. If graduates from such disciplines as mathematical, physical and biological sciences, social sciences and humanities, among other fields, business or otherwise, are coached on basic entrepreneurial skills linked to their learning, the impact on their ultimate abilities to create wealth in society and alleviate poverty in Nigeria would be incalculable.

We therefore feel that by laying out for the first time in Nigeria pathways for successfully embedding entrepreneurship into a discipline, this research would stimulate further interests in this area and particularly lead to adaptations of the pathways to virtually all other disciplines.

However, extending entrepreneurship education to target non-business disciplines also has its challenges. One of such challenges is that the non-business disciplines may not have instructors that can teach students how to be entrepreneurial in the discipline context, Katz (2003; Katz, 2008), Vesper & Gartner (1997). The approach also poses a challenge among policy makers and educationists on curriculum issues mainly centred on what to teach (content) and how to teach it (method of delivery), Feit (2000). This suggests the need for entrepreneurship training for academics in non- business disciplines particularly on how to teach entrepreneurship in the discipline context. We anticipate some of the requirements for such training such as:

- Need for a grounding on the core constructs and attributes of entrepreneurship such as listed above
- Linking the constructs to related concepts in effective pedagogy including core LTA processes; examples of these constructs are deep and experiential learning, constructive learning approaches, student-led learning, interactive, demonstrative and problem-based learning, reflexive learning enabling students to make own sense of

materials used, critical thinking and decision making skills, and assessment of/for learning
- Providing sound frameworks that will facilitate effective embedding of all these entrepreneurship and innovative LTA concepts and demonstrating such frameworks in solid examples within a discipline.

As the aims, objectives and research questions reveal, this research explores the above requirements (contents and methods) from the standpoint of REM.

The next section of this chapter further explores the literature on the contents and methods of entrepreneurship education.

Contents and methods of teaching entrepreneurship

In the higher education context there are two substantial bodies of research focused on:

- Students' propensity towards entrepreneurship and
- The pedagogy of entrepreneurship in programme curriculums, Pittaway & Cope (2007)

There is consensus among scholars that generic entrepreneurship education has positive impact on students' intentionality towards entrepreneurship, Hamidi (2008). Again when rooted in solid learning theory, as in the above requirements, entrepreneurship education develops entrepreneurs by increasing business knowledge and promoting psychological attributes and talents associated with entrepreneurship, Krueger et al, (2000); Walstad & Kourilsky (1998).

It is not clear from the literature if improved intentionality leads to more graduate entrepreneurship or whether such education has impact on success when students choose to create new ventures, Pittaway & Cope (2006). This gives insights into the nature of curriculum design that effectively helps students to develop intentionality (mindset), and also equips them with skills to manifest entrepreneurially and successfully in their chosen careers.

Clearly, in a country like Nigeria where there is a proven lack of functional entrepreneurship education within specific disciplines, it is potentially useful to provoke awareness and stimulate debates on curriculum activities which will enhance students' intentionality to embark on entrepreneurial behaviours, defined in the broad senses of entrepreneurship in own businesses, entrepreneurship in employer organisations, and ability to add superior values in projects overall.

Encouraging graduates to begin to think entrepreneurially while in higher education and to apply the core constructs of their disciplines more usefully will over time improve the general wealth creation capacity of a society which they feed their skills into. It is not expected that intentionality towards entrepreneurship manifests directly in graduates setting up their own businesses (which in itself requires levels of take-off capital they may not afford), but that it does so in form of higher order ability to add values to situations which demand their learning.

In other words, it is not necessary to measure enhancements in intentionality precisely (and not too easy to do that since the construct is an intrinsic personality trait) in order to determine the economic significance of entrepreneurial education to individual graduates and a country as a whole.

Correlates of enhanced capacity on the part of skilled individuals to add superior value to tasks, projects and processes, compared to non-skilled individuals, abound in wider socio-economic systems. Examples of these correlates include:

- Better problem understanding and solutions and more cost-effective design of processes;
- Ability to close deals faster and smarter in strategic commercial environments e.g. mergers and acquisitions, investment banking, private equity and fund management;
- Practical skills in facilitating team spirit and achieving stretch goals; capacity to think things through more robustly in terms of cost and benefits to stakeholders; among others.

The above examples connect well with the kind of entrepreneurial skills discussed in this chapter as vital for inculcation in disciplinary curriculums. When we observe individuals manifesting these traits, it is safe to argue that they also manifest entrepreneurial intent (or intentionality).

What this study therefore explores is baseline frameworks and case studies that will help (Nigerian) HEIs successfully embed entrepreneurship education in HEI curricula, thereby affording graduates of these skills. The business of technically assessing the affect between graduates' intentionality (predisposition) towards setting up businesses, and their exposure versus non-exposure to entrepreneurship education, is in our view a less urgent, even if technically interesting, research in the current Nigerian context.

Nonetheless, we suggest that it could be undertaken as a follow-on research to this study, in which test and control cohorts of graduates from selected disciplines who receive or do not receive discipline-focused entrepreneurial training are monitored longitudinally and

surveyed some years after graduation, to gauge their relative successes in (self) employment.

Wilson (2009) in the introduction to the report '*Educating the Next Wave of Entrepreneurs'*, p. 11, outlined the contents and methods of teaching entrepreneurship generally. The contents include:

- Enhancing entrepreneurial behaviours and mind-sets; building self-confidence, self-efficacy and leadership skills;
- Creativity, innovation and ability to think "out of the box" to solve problems; and manage complexity and unpredictability;
- Basic business and financial skills i.e. business literacy including opportunity identification; how to build, finance and grow ventures; developing negotiation skills; and building relationships, networks, and social capital.

The above ideas overall nail down the essential entrepreneurial skills we will like a well-structured entrepreneurial curriculum to deliver. Getting the research instruments, frameworks and case illustrations in this research to probe these behaviours insightfully is a key requirement for success in the research.

Kuemmerle (2007) in designing a model for international entrepreneurship course suggests that the content of a module for entrepreneurship course should consider the concepts, skills, knowledge and attitudinal objectives of the lesson/field. The concepts are rooted in academic literature and learned through relevant background reading materials given to students before the lesson. Unlike the concepts, skills are learned through repeatedly applying the concepts and knowledge with constant practice. Knowledge refers to specific information communicated in a module. Although it can be acquired without the help of a teacher, Keummerle (2002) emphasizes on the need to guide the learner on where and how to look for specific knowledge.

The problem with this model is that it is based on international context rather than any specific university discipline. The ideas can however, be adapted in designing a module for an innovative discipline based curriculum such as implemented in this research.

Methods of teaching entrepreneurship

On the issue of pedagogy, the existing literature base shows that the methods of teaching are extensively varied and like the content often linked to the objective of entrepreneurship education, (Heinonen & Poikkijoki, 2006). Some authors have distinguished objective of entrepreneurship education along education/learning '*about*' and learning '*for*' entrepreneurship education. Transmission methods of teaching like lectures are more effective for learning about entrepreneurship while experiential learning models are more effective in learning for entrepreneurship (Powel, 2003; Hermann et al, 2013).

We can safely assume in this research that the overarching aim of successful entrepreneurship education in HEIs is to avail students of all disciplines of the capacities immanent in the lists of skills and attributes so far mentioned in this review. There is no doubt; however, that the choice of approaches used in particular learning encounters will depend on particular learning outcomes intended. We hope in the research to explore in some detail this linkage between learning outcomes and LTA strategies. It is noteworthy that nowhere in the body of literature in Nigerian entrepreneurship education (which is only recently reinvigorated by higher educational policies and the Presidency) has this depth of research been achieved in disciplinary pedagogy.

In a nutshell, as argued earlier and in the following notes, traditional teaching methods need to be augmented with innovations in interactive student-led learning if entrepreneurship education in Nigerian HEIs will be successful. This research explores this mixed approach in the contexts of REM.

The traditional teaching methods in form of lectures, literature reviews, summaries and examinations are very effective in gaining theoretical knowledge of entrepreneurship, but weak in enhancing entrepreneurial thinking, Kuemmerle (2007). The methods primarily encourage rote learning and do not adequately meet the challenges of modern education and development of entrepreneurial mind-set and skills among the learners. This is because they ignore the entrepreneurial process and may even inhibit the requisite entrepreneurial skills and attitudes due to lack of immersion in the messiness of problem solving on the part of students, (Powel, 2013, Ezepue, 2008; Kirby, 2002; Gibb, 2002). Reinforcing the above viewpoint, Feit, (2000) and Kyro, (2003) argue that although the traditional methods have a lot of weaknesses, they can be improved to be more effective if complimented with innovative strategies.

In Nigeria a majority of HEI lecturers are not trained in the principles and practices of education even though they master relevant subject matter. This means, as argued earlier in this review, that training them in innovative LTA strategies and how to use them to

promote entrepreneurial learning is germane for wider socio-economic development of the country.

Innovative teaching methods are action oriented learning and teaching methods which encourage students to act on own authority and make decisions (a trait referred to in the literature as student autonomy). A good example of action oriented learning method is entrepreneurially directed approach, Heinonen & Poikkijoki (2006), which helps students to undertake new kinds of roles (say client, consultant or manager in a commercial problem solving situation), and to probe hidden aspects of self, by encouraging them to view situations from new perspectives.

Other innovative teaching methods explored in Heinonen & Poikkijoki (2006), Gibb (2002) and Taylor & Thorpe (2004) include:

- Use of business games and simulation, discovery method, and practical case studies; participative (group) interviews of and guest lectureships by entrepreneurs; job shadowing and project work (Powel 2013; Balan & Met calfe, 2012);

- Development and assessment of business plans and student enterprises; new venture creation; planning and implementing growth projects (Jones & Iredale, 2010); and
- Use of experiential learning methods in teaching (Balan & Metcalfe, 2012; Taatila, 2010).

A very effective way of teaching and learning these skills is the use of case method which is a focused form of learning by doing, Hammond (2002). This involves discussion of real life situations that business executives have faced, as a means of helping the learner to play the role of managers, analyse organisational and problem situations, and take appropriate decisions. The instructor acts as a facilitator to challenge the learner to defend his arguments and analyses as a means of helping them to hone their problem solving skills, and to think and reason rigorously. The method particularly sharpens the learner's analytical and problem solving skills.

To get the best out of the case method, the learner must play active roles by preparing adequately for each case, discussing the case with others before hand, actively participating in class discussion, and sharing related experience. Furthermore, the learner needs to note what clicks and as a continuous learning process apply what is being learnt to specific situations. Along the line, the learner tries to better understand own styles and improve on them based on their exposure to other styles and approaches.

Again as argued above, for effective entrepreneurship education Wolkman (2009) advocates a shift from classical models of teaching to experiential learning approaches.

This entails a change from mainstream, traditional pedagogy to hands-on, project-based, multidisciplinary approaches, Mariotti and Rabuzzi (2009). The teaching methods that achieve these are summarised by Karen Wilson (2009) in the same report on "Educating the Next Wave of Entrepreneurs", p. 11 as - interactive, learner-centred pedagogies; multidisciplinary programmes and projects, case studies, games, simulations, business plan competitions; use of visuals, digital tools and multimedia; learning by doing/hands-on activities; experiential learning; projects, internships with start-ups; mentoring and coaching; and interactions with entrepreneurs.

Talking about discipline-based entrepreneurship education, Johnson et al (2006) argue that such approach can be improved if distinguished along professional lines, but such innovations have not happened due to naivety about the benefits, lack of qualified instructors and restrictions posed by professional bodies. The challenge is also there for curriculum designers in professional disciplines who are bound by conditions set by professional bodies on skills required for acceptance into the profession. Many curriculum designers and managers of professional associations are not trained teachers and may not see entrepreneurial orientation as a desirable or teachable function.

In attempt to resolve the foregoing challenges, Johnson et al (2006) developed a framework for a discipline-based entrepreneurship, by categorizing disciplines into profession, industry and invention-based entrepreneurial ventures, in order to enable curriculum designers understand and address such challenges across multiple disciplines.

The argument is that there are variations in the needs and skills requirements of the different discipline-based groups, with profession-based group favouring skills in management, accounting and finance, marketing and strategy. Based on this understanding, Johnson et al (2006) suggest using entrepreneurship curricula that meet the unique needs of profession-based disciplines and reducing course offerings by utilizing overlapping requirements between courses and disciplines. Within this framework, they suggest:

- Entrepreneurial marketing and sales; entrepreneurial management; and entrepreneurial financial resource management as the key entrepreneurial courses for profession-based disciplines; and
- Note that these are better taught within the context of the disciplines curriculums in the university setting.

We reiterate the fact that this research to a large extent implements the above suggestions in REM, in the hope that the results obtained could be applied to other profession-based disciplines and more widely all disciplines.

In the case of other disciplinary clusters, say, mathematical sciences, social sciences and humanities, health and well-being, it would be interesting to see the common grounds

shared by them and profession-based disciplines in effective entrepreneurial education, and the different nuances contributed by the disciplines to the process. It is arguable, for instance that some skills sets are generally applicable to all disciplines or clusters; examples are skills learnt in the three main course requirements listed above, with the nature of businesses they are deployed in differing from cluster to cluster. It is within this sphere of what types of businesses or wealth-creation practices are amenable to what disciplinary clusters that a programme for radically extending results of this research to all disciplines should be focused. Hence, disciplinary experts would have to ask such questions as:

- What is the nature of mathematical science practices and what businesses should knowledge of their concepts lead graduates to develop?
- How is mathematical sciences knowledge produced via the three main modes of research practice – basic research, applied research and experimental development – and how do graduates begin to put such knowledge into useful practice?
- For a particular mathematical science say statistics, what is the link between the discipline and cognate sciences e.g. mathematics, economics and finance, which students could more gainfully explore through electives and wider learning contexts, in order to be better prepared to function as statistical entrepreneurs? In effect, what form of extended and immersive learning in statistics, other than as is the case traditionally in Nigerian HEIs, should be provoked in the research, teaching, learning and consulting in statistics, in order to produce entrepreneurial statistics graduates?

These questions can be asked with regard to virtually any discipline and their answers potentially hold true in similar ways for related clusters of disciplines. Hence, for effective and innovative entrepreneurship education to be realised in Nigerian HEIs it is more economical to design entrepreneurial curricula with broad principles focusing on related disciplinary clusters, and then develop insightful case studies that demonstrate how the broad ideas apply to particular disciplines.

Within the scope of the current research, all we can do is ask these questions of REM and explore their implications for the pedagogy and practice of the discipline and related profession-based disciplines, such as quantity surveying, architecture and town planning. Following this we will attempt to provoke some philosophical discussions about the ‘signature pedagogies’ that mediate a translation of the key results and ideas to other disciplinary clusters, in the hope that concerned subject matter experts will replicate the research fully in these disciplines.

We remind the reader that the need for these suggestions is that Nigerian higher education urgently requires a kind of mass professionalization of the disciplines which currently produce an alarming number of unemployed graduates. Hence, a primary contribution of

this research is to produce a prototype of embodied entrepreneurship education within a disciplinary matrix (REM) which is adaptable to other disciplines.

As earlier discussed, the character of this embodiment is such that it accommodates tested pedagogical principles, LTA strategies, curriculum frameworks, case illustrations of the frameworks in the light of specific modules, as well as the entire REM programme across all undergraduate levels. Hence, we will apply the ideas to a core module (Property Valuation) within a standard undergraduate programme. It will also explore through critical discourse the link between undergraduate entrepreneurial education and subsequent work at graduate levels. Again, the aim here will be to identify further directions for research and academic development vital for achieving full spectrum entrepreneurial education in Nigeria.

2.3 Summary and conclusion

The above notes explore general issues related to entrepreneurship education and innovative LTA practices in higher education setting. The debate among scholars about whether or not entrepreneurship should be taught is still on, (Haase and Lantenschlaeger 2011). There is substantial evidence from the literature to support the argument that people can be taught to become entrepreneurial (Ezepue, 2008; Ezepue, 2006 a & b; Rasheed 2002) and that entrepreneurship education is possible at the discipline and profession based contexts (Heinonnen & Poikkijoki, 2006; Johnson et al, 2006). The possible objectives of entrepreneurship education at the discipline level were identified to yield understanding of the kind of issues that could be considered in the design of innovative curriculum and to improve the learning and teaching of entrepreneurship in a discipline-based context, (Herrmann et al, 2008; Powel, 2013). The ideas have implications for addressing research questions (RQ 3&4), which seek to answer questions on the nature of curriculum improvement and pedagogic innovations that achieve a discipline based entrepreneurship for REM education.

There is dense literature on entrepreneurship education and related issues generally, but the literature base on embedding entrepreneurship education in specific discipline is still sparse. To the best of the knowledge of the researcher, there is no research of this nature about embedding entrepreneurship learning in the REM education or any other discipline in Nigeria higher education system. This chapter contributes to this fund of knowledge by harnessing ideas that will help to develop a discipline based entrepreneurial curriculum for REM education in Nigeria. It is also argued that the anticipated research results are adaptable to virtually any other discipline, with adjustments made for the material differences among discipline clusters.

CHAPTER 3: REVIEW OF LITERATURE ON CURRICULUM CONSTRUCTS AND RELATED ISSUES IN REAL ESTATE MANAGEMENT EDUCATION AND PRACTICE IN NIGERIA (OBJ.2&3)

3.1 Introduction

This chapter explores some issues in real estate management education and practice in Nigeria. The chapter starts with a content analysis of key documents that guide real estate management education and practice in Nigeria, with a view to identifying the skillsets (graduate outcomes) which effective real estate management education should provide in the light of the stipulated standards. This is followed by a critical review of the learning literature in order to understand the elements of learning, teaching and assessment, (LTA) that define an ideal curriculum. The content analysis of the professional document presented in section three of this chapter enables a critical linkage of the professional standards with entrepreneurial attributes and graduate outcomes.

The theoretical contribution of the chapter consists in a deeper understanding of curriculum innovations required to make REM education more effective and to improve the quality of the graduates.

3.2 Review of related literature on some issues in real estate management education

The key documents reviewed are the NUC Benchmark Minimum Academic Standards (BMAS), the Estate surveyors and Valuer Registration Act, CAP 111 of the laws of the Federal Republic of Nigeria (FRN 1990), the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) requirements guiding REM education in Nigeria universities, and the University curricula of selected real estate management programmes in Nigerian Universities, who were fully accredited to run the programmes as at 2009/2010 academic session. The university curricula considered include those for University of Nigeria Nsukka (UNN), University of Uyo, Federal University of Technology (FUT) Minna, Nnamdi Azikiwe University Awka, University of Ife, FUT Akure, University of Lagos, Covenant University Ota and Abia State University. These are selected in a way that ensures a mix of Federal, State and Private universities in Nigeria offering real estate management programmes.

STANDARDS THAT GUIDE THE CURRENT CURRICULUM FOR REM EDUCATION IN NIGERIA

The National Universities Commission (NUC) is the authority responsible for orderly development of programmes and ensuring high standard of university education in Nigeria.

By Decree (Act) No. 48 of 1988, the Commission was empowered to lay down minimum standards for all programmes taught in the Nigerian Universities. In order to adapt the higher education curriculum to innovations in the 21st century knowledge economy, the Commission initiated a process for review of the Minimum Academic Standards (MAS) in all academic programmes in the Nigerian universities. This led to the emergence of a Benchmark Minimum Academic Standards (BMAS) documents "an amalgam that crisply enunciates the learning outcomes and competencies expected of graduates of each academic programme without being overly prescriptive while at the same time providing the requisite flexibility and innovativeness consistent with a milieu of institutional autonomy" (NUC, 2007).

The new BMAS provides a paradigm shift from highly prescriptive content-based curriculum to outcome-based curriculum and expects for each programme, a curriculum that not only complies with the Minimum Academic Standards but also exposes students to wider range of knowledge that integrates entrepreneurship studies, (Okojie, 2008). The entrepreneurship and the ICT contents are the key content gap between the BMAS, 2007 and the Minimum Academic Standard (MAS, 1997) which does not have those provisions.

Effective implementation of the new policy as provided by the recent NUC BMAS requires restructuring the discipline based university curricula and a paradigm shift in the style of the teaching and learning process. The desire for innovations are all geared towards producing high quality graduates that are more relevant in the knowledge based society of the 21st century and can compete favourably in the global arena. As a profession-based discipline, the regulatory authority for REM education and practice in Nigeria, the ESVARBON plays a prominent role in determining the standard of knowledge and skills to be acquired and in monitoring REM education in approved institutions of learning, to ensure compliance with the set standards. This makes it imperative for every REM programme at the university level in Nigeria to pass through accreditation and regular re-accreditation by the NUC and the ESVARBON. The NUC accreditation seeks to ensure that the university curriculum meets the minimum benchmark and that the university possesses the requisite human and other necessary resources for effective implementation of the curriculum and maintenance of high standards.

ESVARBON accreditation seeks to ensure sufficiency of instructions given to students on the course, the adequacy of examinations and any other related matters all geared towards

maintenance of high standard of REM education in the academic institutions. ESVARBON does not regulate what should be taught as a body. The NUC is the authority that regulates what should be taught and they collaborate with the ESVARBON for contributions in the design of the curriculum. Both regulatory agencies in the course of accreditation visits to any academic institution offering estate management pay particular attention to admission requirements, the curriculum or the appropriate syllabus and subject contents, availability of human and material recourses for effective LTA practices in the department. The accreditation and periodic re-accreditations are means of quality control and maintenance of standards. Both regulatory bodies (NUC and ESVARBON) do not interfere with the teaching and examination as each university is expected to develop the university curriculum that implements the national policies and standards.

GRADUATE OUTCOMES WHICH EFFECTIVE REM EDUCATION IN NIGERIA SHOULD PROVIDE IN THE LIGHT OF THE STANDARDS

What then are the skills-sets which effective REM education should provide? This question could be answered from critical analysis of the NUC BMAS documents for Undergraduate Programmes in Environmental Sciences in Nigerian Universities. The philosophy and aim of real estate management education as indicated in the BMAS (2007) is to produce competent Estate Surveyors and Valuers with sufficient technical knowledge and skills in order to optimize the use of land resources to facilitate economic development.

An evaluation of the philosophy and main aims of REM education reveal the range of skills which effective REM education is expected to provide as follows:

- To enable learners **appreciate** the complex nature of relationships between man and his environment.

- Develop in students **entrepreneurial skills** of value for self-employment in the profession.
- **Involve learners** in **intellectually stimulating and satisfying experience** of learning and studying.
- Provide **broad based foundation of knowledge** of land and buildings and their exploitation and use (subject knowledge).
- Create appreciation of the importance of real estate surveying and valuation in an industrial, economic and social context (connect academic knowledge with world of practice).
- Develop in the learner **survival skills** in an ever changing economic, technological and political environment (survival skills? Business skills?).
- Develop in students the **ability to apply analytical skills** to solve theoretical and practical land resource problems (e.g. analytical skills, problem solving skills).

- Lay the foundation for progression to further studies in specialized aspects of real estate surveying and valuation practice or multi-disciplinary areas involving estate surveying and valuation (research skills).
- Develop in students the use of **information technology** for effective management of land and environment (ICT skills).

Each university is expected to develop a curriculum that meets the NUC minimum benchmark taking into consideration the philosophy and objectives of REM education. Although each university is expected to exercise some level of autonomy by articulating the learning outcomes associated with the programme in a way that reflects the peculiar circumstances and location of the university, such autonomy must be exercised in line with the philosophy and objectives enunciated in the NUC benchmark.

The foregoing points reveal the skills which effective REM education should provide in the light of NUC BMAS documents to include technical skills, entrepreneurial skills, survival skills, interpersonal skills for working in teams, networking skills, analytical skills, problem-solving skills, research skills and ICT Skills. These are further classified into cognitive abilities and skill-set which specifies what graduates of REM should be able to do or perform at the end of the Bachelor's degree programme, the technical skills required to demonstrate such abilities and generic skills-set to enable them perform. These skills-sets indicate the graduate outcomes that graduates should be equipped with in an ideal REM education.

EVALUATION OF THE SKILL-SET AGAINST THE IDEAL CURRICULUM

This section presents an evaluation of the skills-sets against the elements of ideal curriculum, with a view to having insight into the nature of learning outcomes and LTA strategies that will enable students realise ideal skills.

Critical review of the documents that regulate academic standards for REM education shows that the skills-set identified in the NUC BMAS (2007) are comparable with the graduate outcomes in an ideal curriculum, which cover the knowledge contents and clearly specifies the skills-sets (graduate outcomes) expected to be possessed by a learner who has passed through the programme. The ESVARBON regulation seems to emphasize the contents of the technical knowledge of REM with the associated technical skills and abilities. Learning of entrepreneurial skills for REM practice is not stated as a requirement for REM education. Ideally, a curriculum should have learning components that include *subject knowledge and understanding* of theories and principles; *subject specific skills* i.e. technical skills integral to the course of study; *cognitive/intellectual skills* such as understanding of methodologies, synthesis, evaluation or ability in critical analysis; and *key skills* i.e. skills

that are transferable to the world of employment e.g. entrepreneurial skills, communication skills (written and oral), working with a team, problem solving, numeracy and ICT skills (Warwick, 2004).

Entrepreneurial skill is a key skill and having such skills in the mainstream of the university curricula will enable the student's graduating from a university REM programme to be entrepreneurial in the demonstration and communication of what is learned in the university in real life situation and in the professional practice on graduation. The lack of entrepreneurial learning requirement by ESVARBON may have contributed to the entrepreneurial gap in the university curriculum for REM education.

In the light of the NUC benchmark (BMAS, 2007), which is closer to an ideal curriculum compared to the 1997 MAS, effective REM education is expected to equip graduates with technical knowledge of REM as contained in the subject syllabus, in addition to **technical skills and abilities** for management of land and landed property, valuation of property and other assets for all purposes, feasibility and viability appraisal of real estate development projects, real estate agency and arrangement of real estate finance advice on compulsory acquisition and compensation for real estate assets, and for finding solutions to land and environmental problems.

In addition to the technical skill and abilities, graduates of REM are expected to possess key skills such as analytical skills for finding solutions to practical and theoretical land resources problems; problem solving skills for finding solutions to real estate problems; skills for business start-up, networking skills for interfacing with other professionals, dispute resolution skills; research skills to lay a foundation for further studies in specialized aspects of REM practice; ICT skills for effective management of land and environment; **generic skills-set** for written and oral communication; computational and numeracy skills, interpersonal skills for working in multidisciplinary teams; time management and organisational skills; research skills and study skills for continuous professional development (CPD).

On the downside of the NUC standards, critical evaluation of the skill-sets reveal that entrepreneurship skill is in the mainstream of the philosophy and aims of REM education as stated in the BMAS (2007), but the skills are merely reduced to ability to start up a business in the graduate outcome. The narrow conception of entrepreneurship as business start-up as merely equipping students with business start-up skills affects the approach to entrepreneurship education for REM. The entrepreneurship education as practised concentrates on equipping students with skills for starting up business on graduation (enterprise skills), rather than equipping graduates with entrepreneurial skills of value for REM practice. The research will contribute in this regard by exploring curriculum

innovations required to make entrepreneurship education more effective by embedding entrepreneurial skills in the mainstream REM curriculum and demonstrating the innovation using a core REM course.

Furthermore, it is observed that the university curricula that implement the NUC benchmark and ESVARBON standards for REM are not properly developed along outcome based requirements of the BMAS (2007), which is more ideal. The university curricula align more with the ESVARBON and the NUC MAS 1997. The curricula focus more on subject knowledge and align their objectives to equipping REM students with analytical, institutional and management tools for sustainable development of land and land resources. Equipping students with entrepreneurial skills within the contexts of REM discipline is not emphasized. This is not surprising because REM being a profession based discipline is perceived as being innately entrepreneurial discipline and as such, the regulatory body (ESVARBON) may not consider entrepreneurship as teachable skills, as argued in Johnson et al, 2006. Although a couple of university curricula include entrepreneurship as one of the taught courses, the contents are more or less basic business skills and human resources management functions.

These factors present the traditional REM curricula as weak and therefore not well positioned for production of competent REM graduates equipped with relevant skills for top level REM practice in a 21st century economy. This development has implication for a review of the university curricula for REM programmes, to make it more innovative by incorporating entrepreneurial skills in the mainstream REM curricula.

NATURE OF LEARNING OUTCOMES AND LTA ACTIVITIES THAT WILL HELP REM STUDENTS REALISE THOSE SKILLS

We have in the previous section identified learning outcomes in ideal curriculum and skills-sets which effective REM education should provide in the light of the NUC standard. In the light of the NUC standard, student learning outcomes in the university curricula should encompass subject knowledge, skills and abilities that student are expected to attained as a result of engaging in a set of higher education experiences in REM discipline. Our critical evaluation of the university curricula for REM has revealed a gap between the NUC standards (the benchmark) and the university curricula that implement the standards regarding the development of entrepreneurial skills of value among REM students. The revealed gap brings to the fore the need to review the REM curricula to enable embedding of entrepreneurial skills in the university REM curriculum.

Entrepreneurship education requires a new pedagogy that facilitates the attributes of innovations in the curriculum design to produce a curriculum that embraces skills-based

training, using case studies, problem-based learning, and critical thinking methods/approaches in LTA. Ezepue (2008) suggests that the nature of curriculum that can be designed to achieve such learning outcomes involves skill based and theoretically sound curriculum for training that requires working to model of learning, teaching, and assessment that affords the learner opportunity for self-awareness, self-efficacy, authentic learning experiences, creativity, critical thinking, ability to maintain deep expertise in a REM area of interest, use the expertise in practice and continually be productive in professional development activities. The nature of LTA strategies that can effectively help students achieve such skills is characterized by LTA activities that:

a) recognize the role of networks, clients and other stakeholders as important sources of learning, (Gibb 1993; Taylor & Thorpe, 2004; Powel, 2013),
b) encourage and support active student participation, makes provision for warming up and group formation techniques, (Heinonen & Poikkijoki, 2006);
c) make provision for some kind of triggering events that gives intention to entrepreneurial endeavours e.g. role of entrepreneurship as a means of wealth creation and employment generation, (Schinehutte et al, 2000; Jones & Iredale, 2010),
d) Lead students to action and activates intuitive and innovative thinking, Karen et al (2009).
e) Finally, LTA activities that encourage students to exhibit entrepreneurial mindset and attributes, allow assessment of how students have adopted the concept of entrepreneurship, entrepreneurial skills and behaviour and how the concept works in practice, Heinonen & Poikkijoki, (2006).

The nature of such curriculum innovation in real estate management will tend towards inculcating activities that will demonstrate how entrepreneurship skills apply in the various real work activities related to the core real estate management courses.

IMPLICATION FOR THE RESEARCH

We have reviewed several university curricula for REM education in Nigerian universities and found them inadequate for entrepreneurial REM practice. They have not been aligned to NUC benchmark minimum academic standards (2007), particularly with regards to equipping REM graduates with the relevant skills-sets as stated under the main aims of REM education in the NUC benchmark standards. The learning curricula are still objective-based rather than outcome-based. The style of teaching is teacher-centred with teaching approaches that concentrate on making students to know more. Assessment strategy concentrates mainly on tests, quizzes and examinations that tend to evaluate content of knowledge. The REM curricula currently in use are therefore prescriptive and candidates

are expected to pass all the prescribed examinations in addition to meeting other requirements to graduate.

They do not specifically state what students are expected to be able to do and skills such student are supposed to have acquired (graduate outcomes) on graduation. Although the (BMAS 2007) requires a curriculum that is outcome-based, the REM curricula of most Nigerian universalities which are expected to implement the NUC standards are still objective-based.

Following from the NUC BMAS, entrepreneurship seems to have been conceived from the narrow scope of business start-ups by the graduates. A few of the university curricula include entrepreneurship education as a required course in the programme probably to fulfil one of the key objectives of the REM education stated in the BMAS, but the content of the course tends towards basic business studies and human resource management functions. Such contents did not make any provision on how to achieve the objective of equipping students with entrepreneurial skills of value, since entrepreneurship skills are not listed in any of the course categorization. The REM curricula of most universities did not even make any mention of entrepreneurship education in the curriculum.

The implication is that looking at the NUC BMAS 2007 and the university curricula that implement the standards, there is a gap. This gap needs to be closed through a new REM curriculum that integrates entrepreneurship skills. The curriculum innovation is expected to provide functional REM education through effective teaching and learning practices that adequately equip the students with skills for entrepreneurship in the professional practice.

SUMMARY

The critical analysis in this section has identified the skill-sets (graduate outcomes) which effective REM should provide in the light of NUC BMAS (2007) and found a gap between the skills-sets provided in the NUC minimum academics standards and the skills-set in the university curricula that implement the standards. This implies that students graduating from the university programme are not adequately equipped with relevant skills. The section also identified the nature of learning/graduate outcomes and LTA activities that will help students realise such skills in REM practice.

The analysis of the survey data presented in chapter 6 and 7 of this thesis provides an understanding the current LTA practices in REM departments in the Nigerian universities and reveals further gaps in the practices when compared to the ideal curriculum.

3.3 Critical evaluation of curriculum constructs and related issues in REM education in Nigeria

Introduction

This section presents the critical review of literature on selected learning theories, conceptions of learning and learning outcomes. This enables an understanding of the elements of LTA that define ideal curriculum.

Learning theories

The learning literature is laden with ideas that seek to explain views about learning orientations and conceptions of learning. The understanding of learning orientation is very important in this study because the learning conceptions and orientations determine the LTA strategies in an educational system.

But why are these elements of learning important in REM education? Or **how** should knowledge of learning conceptions and orientations facilitate entrepreneurial training in RE education? This is necessary as it forms the basis for the design of innovative curriculum for REM education and the nature of LTA strategies for effective discipline based entrepreneurial education. Looking at the issue from the perspective of learning being contextual, one can argue that in order to develop entrepreneurial capacities within the theoretical constructs and practices in the REM discipline, the students' learning orientations need to be changed in line with the entrepreneurial mindset and be taught by use of suitable LTA strategies for effective entrepreneurship education in the context of REM discipline. The conceptions of learning and learning orientations determine the LTA strategies adopted in a learning situation, Kembe & Kwan, (2002). Furthermore, looking at it from the students' perspective, understanding of conceptions of learning and learning orientations will help to change students learning orientations from a focus on examination success to developing entrepreneurial mindset for how to apply the learning outside the HEI setting.

Merriam and Caffarella (1991) in her study on learning in adulthood identified three types of learning orientations: the behaviourist orientation, cognitive orientation, and humanistic orientation. The behaviourist theorists regard learning as a change in behaviour resulting from experiences in external environment (Skinner, 1973). A learning programme that has behaviouristic orientation will aim at providing suitable environment to elicit the desired behavioural changes in the learner. The teacher's role is to ensure the manifestation of the desired behavioural objectives in a learner that takes part in the learning process. In this sense a change in behaviour is seen as the product of learning i.e. the learning outcome.

The implication of this is that effective entrepreneurship education enables the learner to manifest entrepreneurial behaviour in the world of practice.

For cognitive theorists like Gagne (1985) and Piaget (1972), learning is an internal mental process which involves insight, information processing, memory and perception. The focus is on gaining knowledge or ability through the internal cognitive structuring of the learner. A learning programme with cognitive theorist's orientation will aim at developing in the learner the capacity and skills to learn more, with the teacher having the role of structuring the content of learning activity. The weakness in this learning approach is that if applied in a strict sense the learner's role in the learning process would just be like a receptacle into which the teacher drops ideas.

The changes expected from learners via a new curriculum are best planned for if lecturers understand conceptions of learning and how to structure tasks that enhance higher-order learning and skills into well-framed learning outcomes. It can be argued that structured learning outcomes are targeted to enable learners to actualize different conceptions of learning. The importance of good teacher education in this regard is that REM lecturers with such training are in a better position to align the conceptions and orientations of learning with learning outcomes that in themselves enhance the entrepreneurial skills of REM students.

In other words, framing an ideal and entrepreneurial REM curriculum requires a critical understanding of learning theories, conceptions and orientations of learning to the extent that we can interrogate these constructs as to how they engender key elements of the entrepreneurial mind-set. These elements are referred to as entrepreneurial skills and attributes, so what is of interest to us in this research is the manner in which these skills and attributes can be fostered through students' training in core REM courses.

Parts of the theoretical structures needed in this aspect of the work are how effective and entrepreneurial learning outcomes (LOs) can be framed from established taxonomies of learning outcomes e.g. Bloom's taxonomy, in order to accommodate deep learning of core concepts of REM courses as well as students' ability to use related knowledge entrepreneurially in practice.

In this quest, we have to explore how entrepreneurial attributes and skills can flow from such curriculum structuring, better LOs and what types of learning tasks, other than currently available in Nigerian universities, should be developed in order to facilitate this flow.

In the traditional approach to curriculum structuring and delivery in Nigerian higher educational institutions (HEIs), and for almost all disciplines, the spectator role of students

as receptacles into which teachers drop ideas is manifest. For REM students to become genuinely entrepreneurial beyond mere professional REM abilities require that they develop extended capacities to solve RE problems. This is not helped by traditional teacher-led instruction in which lecturers dominate the learning process, encouraging students to mainly internalize and recall theoretical concepts during 100% examination-based assessments. This makes the assessment mainly of learning concepts instead of for learning that can be creatively applied to sometimes non-routine problems.

For example, a balanced tuition in REM education should use a mixed LTA strategy whereby lecturers explain core concepts of a topic (say property valuation and management), while interactive coursework around (near to) real-life property valuation projects enable students to put into practice their understanding of the concepts. The students then report their results skilfully and professionally in group presentations and individual reflections on their learning.

Other elements of the mixed approach include reflective term papers on specialist aspects of valuation (e.g. valuation of properties with insufficient market price history) which will help them to develop relatively advanced understanding; and a balanced assessment for and of learning (of the concepts and for students' ability to conduct professionally thorough valuations in practice). These non-examination components of the assessment should be allocated a good proportion of the module marks.

In other words, 100% examinations will not arise and courseworks, case studies, individual and group work and presentations could take up about 30-40% of the total score. In the experience of the researcher current coursework are mainly quizzes and tests of recall of concepts, which is not different from the examination-based assessments. These innovations of the traditional curriculum in REM education will make the learning teacher-facilitated and student-led and avail students of much needed practical skills which are reinforced by professional competencies such as communication and presentation of key ideas related to problem solutions.

Humanist theorists like Rogers (2003) and Maslow (1968) conceive learning as an act of fulfilling potential. The focus is on the affective and cognitive needs of the learner with the aim of making the learner self-actualized and independent as a result of undergoing a learning programme. Learning takes a self-directed approach with the teacher acting as a facilitator in the development of a whole personality fully equipped with knowledge, skills and abilities. The strength of this approach lies in the fact that learning is approached from the view point of what and how the learner wants to learn while the teacher facilitates the learning.

Again, talking of knowledge, skills and abilities reminds us of the kind of knowledge and skills that entrepreneurial REM education should imbue in students and the need for these skills and attitudes to be reflected in the professional standards of RE practice. It is arguable, in effect, that entrepreneurial REM education should enhance the potential for learner fulfilment; the character of this additional potential should be explored in a research of this nature. It is this character that imposes the requirements for an ideal curriculum for entrepreneurial REM education.

What this means is that a more thoughtful linkage should be developed among learning theories, concepts and orientations, framing of learning outcomes, self-actualization (both in terms of subject matter knowledge and professional growth) and entrepreneurial behaviour. The concepts of learning gaps are useful in this respect.

Light and Cox (2005) explored the nature of learning gaps that can exist in any discipline. The gaps are summarised here for an insight into the related gaps in REM education. The learning gaps include gaps between recall of concepts and understanding, ability to use, actually using and on-going change. Any discipline that manifests the gaps cannot deliver effective education because the gaps limit the learner's ability to apply the knowledge in solving problems in real life situation.

APPROACHES TO LEARNING

We reviewed the literature on learning principles which give insight into how learners learn effectively. Laird (1985) in his Sensory Stimulation Theory argues that from the cognitive orientation, learning occurs when the senses are stimulated and that stimulation of multi-senses leads to greater learning. His argument is that learning is holistic and requires activation of all the elements in an individual's personality – the intellect, emotions, the body impulse, intuition and imagination to be more effective. This kind of learning is based on the total man concept because it develops a whole individual and enables him to be creative and effective. An ideal curriculum of interest in this research should support RE education that is whole-body, multi-sensory, multi-experiential, imaginative in application and thorough in theoretical preparation of the students.

Action learning approach links the world of learning with the world of action through a reflective process within small learning groups (the action learning sets) who meet regularly to work on real life issues to find solution to problems (McGill & Beauty, 1995). The questioning insight facilitates people learning with and from each other in an action learning set.

Similarly, learning comes from collaboration whereby the teacher provides the learner with an enabling environment that motivates learning and acts as a facilitator in the learning process (Piaget, 1972). Research on development of expertise has shown that collaboration is a precondition for accumulation of task oriented learning and has come up with substantial success in the social environment (Slavin, 1989). Despite the successes, collaborative learning has been criticized by several researchers. Salomon & Globerson (1989) in their study titled *'When teams do not function as they ought to'* warns that in some cases emphasizing on collaborative learning may lead to weakened motivation for learners. Similarly, other researchers, (Scardamalia & Bereiter, 1994; Brown & Campione, 1996) have argued that the essential thing in student's learning is not the social context or collaboration per se but **how** the activities are harnessed to enhance intentional learning. More important, though, is the need to support the student's commitment to the relevant processes of thinking and problem solving rather than motivating them by means of situational incentive or learning results (Brown & Campione, 1996; Jarvela & Niemivirta, 1999). For instance Anderson, Reder, & Simon (1996) suggest that as far as learner's motivation and direction of goals are concerned, the essential thing is to discuss the factors that motivate the learner's collaboration, or the factors that form the common goal for the collaboration, and at the same time make the individual learner committed to the joint performance or discussion. The key to effective collaborative learning is commitment by the learners.

The argument among authors in the field of learning is that individual differences and orientations towards learning and studying affect their learning abilities (Vermont, 1992; Messick, 1994; Entwistle, 1988). The question is answered from the review of the learning literature on conceptions, learning styles and orientations. Saijo (1979), carried out a research in which he asked a number of students of adult education what they understood by learning. Their responses about conception of learning fell into the following five main classifications:

1. Learning as a quantitative increase in knowledge i.e. acquiring information or "knowing a lot".
2. Learning as memorizing i.e. storing information that can be reproduced.
3. Learning as acquiring facts, skills and methods that can be retained and used as necessary.
4. Learning as making sense or abstracting meaning. It involves relating parts of the subject matter to each other or to the whole world.
5. Learning is interpreting and understanding reality in a different way. Learning involves comprehending the world by interpreting knowledge.

The first three categories (1 to 3) imply a basic conception of learning which can be achieved through a narrow or surface learning style (pattern of learning activities) that concentrates on the texts and leads a student to a reproductive orientation. The last two conceptions (4&5) look to the internal or personal aspect of learning as something that you do in order to understand the real world. This requires higher order pattern of learning activities (deep learning style) in which a student approaches learning at a deeper level with the aim of interpreting the meaning of the text (Maton and Sailjo, 1976). Evidences from other similar researches indicate that deep learning approach is more related to high quality learning than a surface learning approach (Biggs, 1979; Entwistle and Ramsden, 1983; Trigwell and Prosser, 1991).

Similarly, Slaats et al (1999) in their study on learning styles in secondary vocational education identifies aspects of conceptions of learning similar to Saijo (1979): Learning as the intake of information with emphasis on retention of facts, learning as knowledge building and learning as utilizing knowledge. The only difference is that Slaats et al identified a third conception (learning as utilizing knowledge) as against two by Saijo (1979). The conception of learning as utilizing knowledge is characterized by emphasis on the practical value of what has been learned. Knowledge in this view is seen as something that is ready for use and applicable. This third conception **(learning as utilizing knowledge)** is not surprising, though, considering the fact that research was conducted among students in a vocational discipline who by their background need to apply knowledge.

Furthermore Slaats et al (1999) and Vermunt (1992) found that learning styles, as consistent patterns of learning activities that are systematically linked to learning conceptions and motivational orientations are not generic. They may be influenced by the peculiarities of the learning context and its demands and may be distinguished along discipline lines. Among the learning styles (passive, reproductive, constructive and versatile), **constructive learning** style is more apparent in the vocational, science, engineering and technology disciplines which invite students to apply their knowledge and skills in a creative manner.

This is quite revealing as it has implications for identifying conceptions of learning in REM discipline and patterns of learning activities that will motivate students to learn effectively. There is a knowledge gap about REM academics' and students' conceptions/understanding of learning and insights from this study will be used to elicit such knowledge from survey of REM students to fill the gap.

The teacher has a role in supporting the students' deep approach to learning by aligning the teaching method and assessment with learning activities stated in the objectives. Kember & Kwan, (2002) in a study on learning styles found a strong relationship between the

conceptions of learning and teaching strategy. The teaching approaches adopted by teachers were strongly influenced by lecturer's conception of teaching. This makes teachers conceptions of good teaching and learning approaches important elements of ideal curriculum.

These conceptions were investigated in the surveys of REM academics and students. The result indicates that learning in REM is viewed from the perspective that supports deep and entrepreneurial learning but the LTA practices do not implement such learning conception and reveal some gaps.

WHAT CONCEPTIONS OF TEACHING WILL HELP TO DELIVER IN AN IDEAL CURRICULUM?

Recent studies on teaching in higher education indicate two major approaches to teaching, the content-oriented approach which is teacher-centred and learning oriented approach which is learner-centred (Enstwistle & Walker, 2002; Prosser & Trigwell, 1999; Kember, 1997). In a content-oriented approach the teacher adopts a strategy that aims at transmitting information to the students with a focus on the facts and skills possessed by the teacher, while a learning oriented approach adopts a strategy that helps students to change their world view or conceptions of a phenomenon being studied. The teacher's role in a learning oriented strategy is facilitative. Teachers who conceive good teaching as transmission of knowledge are more attracted to content-oriented approach to teaching which leads the learner to reproductive orientation and low quality of learning.

Conversely, teachers who view good teaching as facilitative in nature tend to use student or learner centred approach which leads to deeper level of learning with high quality of learning outcomes. Parpala & Lindblom-Ylanne (2007) and Lueddeke (2003) argue that ideal teaching adopts student-centred or learning centred approach rather than teacher-centred or content-oriented approach. Parpala and Lindblom-Ylanne (2007) in a study that explores university teachers' conceptions of good teaching identified other important factors in ideal teaching. Ideal teaching practice involves interaction in which students are encouraged to actively participate in fruitful discussions in small groups where students are made to think for themselves by giving them different kinds of tasks and encouraging them to discuss with one another. Another dimension involves a teaching practice that puts teaching into a larger context with the aim of enhancing students' expertise in a subject matter. Teachers use a variety of teaching methods e.g. lecturing, group work-discussion in small groups and brain storming, problem based and other exercises.

Teaching context is another important factor. The student is ideally responsible for his own learning in ideal situation and must always strive to learn something new or different. In an ideal situation the atmosphere must be conducive for student to ask questions and the functional facilities and physical environment supports teaching and learning.

WHAT ARE THE ELEMENTS OF ASSESSMENT THAT DEFINE AN IDEAL CURRICULUM?

Priddy (2007) in her study on patterns of success in assessing and improving student learning suggest that the modern trend is assessment that provides students or the public with a reliable and consistent means of documenting outcomes of education to restore public trust in higher education. Evidence from studies on curriculum innovations around the world suggest that most countries are now using or tending towards the use of learning outcomes in education and training policies, instead of constructing learning objectives around taught input as benchmark for assessment of learner's performance (Cedefop, 2008 reported in Psifidou, 2009). Learning outcome is a written statement of what the successful learner is expected *to know, understand and be able to do or demonstrate* having gone through a specified and supported learning programme, Adam (2004). Student learning outcomes encompass knowledge, skills and abilities that student should attain as a result of engaging in a particular set of higher education experiences**, (**Warwick, 2004). Bloom (1956) in the popular Bloom's Taxonomy of cognitive skills argues that learning is hierarchical and develops in levels. He presents six levels of learning starting from basic knowledge, graduating through to comprehension, application, analysis, synthesis and evaluation which should also form the basis for assessing students' performance at each level of learning.

Some educators like Fuhrmann & Grasha (1983) have successfully applied the six levels of the Bloom's taxonomy in measuring students' learning, while other educators who found it difficult to apply the six-level taxonomy devised a simplified taxonomy by collapsing the six levels into three categories (Crooks, 1988). The simplified three-level category comprises knowledge at the recall or recognition of information level e.g. ability to identify and recognize common terms, facts and principles; the second category combines comprehension and applications by expecting a student to demonstrate understanding of facts and principles and apply such concepts and principles to similar situations. The third category compresses analysis, synthesis and evaluation in Bloom's Taxonomy into problem solving at which level a student is expected to demonstrate ability to distinguish between facts and inferences, integrate learning from different areas, and demonstrate ability to solve problems by creative thinking and transfer of existing knowledge and skills to new situations.

Unlike the traditional taught input objectives which express intentions of the teacher in the learning process, learning outcomes are learner-centred and concerned with the achievements of the learner (what the learner can do having gone through a learning process). In an ideal curriculum, student's assessment is seen as a means to an end and not the end itself. The ultimate is student's outcome manifestation through demonstration of knowledge, skills and abilities in a "can do" attitude.

Assessment criteria in a higher education in the modern dispensation requires making explicit in the curriculum what the learner can do at each level of blooms taxonomy of learning outcomes.

Recent curriculum researchers take a restricted view of the definition of curriculum from two perspectives namely: i. the range of courses and the contents from which students choose what subject matter to study, and ii. A specific learning programme i.e. description of the learning, teaching and assessment processes for a given learning programme of study (Kelly, 2009). In this study we refer to the term curriculum as the range of courses and contents from which students choose the subject matter of study as well as a specific learning programme describing the learning, teaching and assessment (LTA) strategies in a specified learning programme - Real Estate Management (REM) programme.

The modern trend in education systems around the world is to provide students and the public with a reliable and consistent means of documenting outcomes as evidence of effective education.

In the 21st century education, emphasis has shifted from focus on assessment that just fulfils regulatory demands to assessment, to assessment that meets clear, common, consistent and comparable learning. Such assessment demands evidence of what and how students are learning, access to constructive learning, and whether the learning competes favourably in a global market. These new developments in 21 century knowledge economy guide the elements of learning, teaching and assessments that define an ideal curriculum.

The review in this section explores the elements of learning, teaching and assessment that defines ideal curriculum as revealed by the learning literature. An ideal curriculum is built on the principle that effective learning involves multi-sensory activation that leads to development of higher order learning that is contextual, constructive, action oriented and involves active participation by the learner; a teaching that adopts a learner centred approach, and uses variety of methods as appropriate to achieve the desired learning outcome and assessment strategy that targets higher levels in the taxonomies of learning assessment. Such a curriculum probes what the learner has been able to understand and demonstration of such understanding in what he does in the real life world.

These ideas are reflected in the current NUC standards (BMAS, 2007) for university education in Nigeria but are not reflected in the contents of the university curricula that implement the standards. For this reason we consider the BMAS 2007 to be closely reflective of the elements of LTA that define ideal curriculum and use it as the baseline for the development of innovative curriculum in this research.

This understanding guides the probing of students and lecturers, conceptions of learning, teaching and assessment practices in the traditional curriculum for REM education with a view to understanding the gaps.

3.4 Review of professional standards for real estate surveying practice in Nigeria

This section presents a review of documents that embody the professional standards for real estate surveying practice in Nigeria. The review supports work in Objective 3 of the research, “To review the professional standards guiding REM practice in Nigeria and survey of practitioners’ opinions about possible gaps in practice as revealed by employees (young REM graduates) of real estate management”.

The review starts with an overview of some issues in REM discipline such as the scope of education and practice, the legal and institutional frameworks for REM education and practice in Nigeria and then proceeds to the content analysis of documents that embody the professional standards.

The key documents analysed are the Estate Surveyors and Valuers, Registration Act, Decree No.24 of 1975 up to 1990 and subsequent amendments, ESVARBON rules and regulations of practice of estate surveying and valuation, the NIESV Constitution (2006) the guidelines for the test of professional competence, (2007) and Harmonized Guidelines for Thesis Presentation, (Udo, 2005).

The rationale of the analysis is to identify the skills-sets for effective real estate surveying professional practice in the light of the stipulated standards. The identified skills-sets are critically evaluated to relate the professional standards with entrepreneurial attributes and graduate outcomes identified in objectives 1 and 2 of this research.

THE SCOPE OF REAL ESTATE MANAGEMENT KNOWLEDGE

Real estate education and practice transcends national boundaries and is global in scope. This is evidenced by the high level of academic relationships through virtual learning and international collaborations in the academic arena and increasing cross border real estate transactions in the business arena. In attempt to define a body of knowledge for real estate

with a view to gaining insight into the various real estate topics around the world, Black and Rabianski, (2003) found there is no consensus among researchers about what constitutes the body of knowledge in real estate management in the international academe.

The scope of knowledge is wide and interdisciplinary and comes from the realm of social sciences domiciled in business schools as is the case in the United States, for example. In that sense, the focus is on real estate finance and investment. The body of knowledge is also viewed from the realm of applied sciences with a focus on physical as well as financial concepts, or from construction, engineering and technology context with a focus on the physical real estate (Diaz, 1993).

In Nigerian tertiary institutions, real estate management is domiciled in the faculty/school of environmental studies with a focus on land economics, valuation and investment, property development and management, construction and land law just as the case in the UK. Students enrol on courses that teach these core areas and field examination and dissertation topics that come from the stated core areas.

In the area of professional practice, the early indigenous real estate management practitioners in Nigeria who qualified before 1967 were trained at the College of Estate management, University of London or professional diplomates of the Royal Institution of Chartered Surveyors (RICS). Those early indigenous REM practitioners set up practices in Nigeria in line with the guidelines and regulations of the RICS of the United Kingdom.

The point we are trying to make here is that REM education and practice in Nigeria had much of the United Kingdom influence until the establishment of indigenous estate management programmes in the Nigerian universities in the early 1960s.

LEGAL AND INSTITUTIONAL FRAMEWORK FOR REAL ESTATE MANAGEMENT EDUCATION AND PRACTICE IN NIGERIA

Academic training/education

The National Board for Technical Education (NBTE) and the National Universities Commission (NUC) are the respective regulatory bodies for providing the academic training in real estate management at the polytechnic and University levels in Nigeria.

The NUC benchmark minimum academic standards for Undergraduate Programmes in Nigerian Universities (BMAS, 2007) defines real estate management as the ‘art and science’ of supervising the use, development and management of landed property, other natural resources and the built environment. In line with that definition the philosophy and aim of REM education in Nigeria as indicated in the same document is to produce

competent Estate Surveyors and Valuers with sufficient technical knowledge and skills in order to optimize the use of land recourses to facilitate economic development.

The higher educational systems through the universities and polytechnics provide the first formal training for future estate surveyors and valuers. They are duty bound to provide quality REM education with good grounding of estate management principles and skills to actualize the aim of producing competent Estate Surveyors and Valuer with sufficient technical knowledge and skills.

The basic requirements for admission into a REM programme in formal education (Nigerian HEI) are credit level passes in five ordinary level subjects that must include English language, mathematics and any other three subjects, one of which must be a basic science subject. The duration of study varies from 2 years of National Diploma; 2 years of Higher National Diploma at the Polytechnics and 5 years of Bachelor's Degree offered by the Universities.

Any department in a HEI offering real estate management programme in Nigeria whether at the polytechnic or at the university level must pass through 5-yearly accreditation by the National Board for Technical Education (NBTE) at the polytechnic level or National Universities Commission (NUC) at the university level. Additionally, such department, whether at the polytechnic or university level, is subjected to accreditation by the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON), the regulatory body for education and practice of REM in Nigeria to ensure compliance with the laid down standards for various aspects of training. The quality of REM education in Nigeria therefore depends on a number of factors:

a) the quality of basic education obtained at the pre-university or polytechnic level,
b) the accreditation by the regulatory authorities
c) the standard of in-house academic training (the LTA practices) at the Nigerian tertiary education system
d) Knowledge gained from annual conferences, lectures, mandatory continuous professional development (MCPD) organised by the Nigerian Institution of Estate Surveyors and Valuers (NIESV).

By the philosophy and aim of the national policy for REM education (NUC BMAS, 2007), effective REM education should equip graduates with technical knowledge of REM as contained in the subject syllabus in addition to **technical skills and abilities** for management of land and landed property, valuation of property and other asset for all purposes, feasibility and viability appraisal of real estate development projects, real estate agency and arrangement of real estate finance, advise on compulsory acquisition and

compensation, and for finding solutions to land and environmental problems. In addition to the technical skill and abilities, graduates of REM are expected to possess key **skills-set** comprising analytical skills for finding solutions to practical and theoretical land resources problems; problem solving skills for finding solutions to real estate problems; skills for business start-ups, networking skills for interfacing with other professionals, dispute resolution skills; and research skills to lay a foundation for further studies in specialized aspects of REM practice and ICT skills for effective management of land and environment; and **generic skills-set** for written and oral communication, computational and numeracy skills, interpersonal skills for working in multidisciplinary teams, time management and organisational skills, research skills and study skills for continuous professional development, (NUC BMAS, 2007.

Professional training

Real estate management is a professional discipline and as such, possession of academic qualification in real estate management only satisfies the academic qualification. The graduate is also required to be professionally qualified and admitted into the membership of a recognized professional body. This requirement is fulfilled when the aspirant passes a test of professional competence, submits satisfactory critical analysis thesis and attends oral interview with the NIESV. The test ensures that the aspirant is qualified to act independently in full professional capacity. It is the responsibility of the professional body to:

- Specify the skills and knowledge required to practice.
- Conduct achievement tests to determine whether individuals do have the specified skills and knowledge and to certify their competence
- Specify ethical standards or codes of conduct for people who practice the profession, (Millington, 2004).

The Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) is the regulatory body for real estate surveying practice in Nigeria. The Board was established and entrusted with the powers to train and register estate surveyors and valuers and regulate the practice of real estate surveying and valuation. It is the only authority empowered by law to register estate surveyors and valuers and issue the stamp and seal of practice as evidence of such registration in Nigeria. In the case of training, the board has granted certain powers and responsibilities for the professional training to the Nigerian Institution of Estate Surveyors and Valuers (NIESV) but still retains the power to monitor academic training of students in the HEIs which she exercises through the accreditation of academic programmes in the universities and polytechnics.

The Nigerian Institution of Estate Surveyors and Valuers (NIESV) is the indigenous professional association of real estate surveying professionals in Nigeria. The body started operation as a professional body in 1970 but was accorded official government recognition in 1975 with the promulgation of the Estate Surveyors and Valuers Registration Act (Laws of the Federal Republic of Nigeria 1990, Vol. 7, Cap 111), formerly the Decree No. 24 of 1975. We would from this point on refer to the Estate Surveyors and Valuers Registration LFN, 1990, Vol. 7, Cap.111as 'the Act' for ease of reference. What this means is that both the ESVARBON and the NIESV derive their official recognition in the eyes of the law from the same document – the Act.

With the delegated authority from the ESVARBON, the NIESV now exercises the responsibility of training the real estate surveying professional among other functions, but carries out the responsibility in line with the provisions of the Act and the Constitution of the Nigerian Institution of Estate Surveyors and Valuers. Any person who wants to register with ESVARBON must first and foremost pass through the rigorous professional training and assessment processes and be elected by NIEVS. For the purpose of understanding the link between academic training in REM education and the professional practice and possibly entrepreneurship education, the requirements for election of REM graduates into professional membership are outlined below:

1. A university degree or higher national diploma in Estate management from a Nigerian University or Polytechnic
2. Professional qualifying examinations as prescribed by the Nigerian Institution of Estate Surveyors and Valuers (NIESV)
3. Acquire suitable professional experiences by serving in an approved office for a period not less than two years after passing the qualifying examinations.
4. Belongs to the professional body as a student, probationer or graduate member.
5. Continually update knowledge and skills by active involvement in the annual conferences, seminars, workshops and mandatory CPD organised by the NIESV.
6. Submit a critical analysis of professional experiences and pass the election interview.

Once a person is elected he can apply to the ESVARBON for registration without any waiting period. To qualify for registration as an estate surveyor and valuer under the Act a person must be of good conduct, aware, understands and correctly employs recognized methods and techniques necessary to produce credible professional services and advice, including valuation. The Board interviews a prospective candidate to ensure the person's eligibility before registration. The Act gives insight into the mark of identity of an estate surveyor and valuer. He is any person registered as such by the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) under the Act.

SKILLS-SETS FOR EFFECTIVE REM PRACTICE IN NIGERIA

The Rules and Regulations for practice of estate surveying and valuation profession and other documents on professional standards give insight into the key areas of professional practice and the skills-set for effective practice of the profession. The key areas of practice are summarized as valuation of landed property and assets all purposes; property development and management; real estate investment analysis and loan syndication; land acquisition and lease management; real estate agency and facilities management. Relevant skills for the core areas of professional practice include:

a) Business and managerial skills – an estate surveyor can set up business as sole principal of a practice or a partner in a firm or a director in a company carrying on practice as estate surveyor and valuer (Rule 10). This is similar to setting up as sole entrepreneur, co-preneur or as intra-preneur within the context of REM profession.
b) Accounting skills to ensure proper accountability to clients (rule 15).
c) Real estate Agency and property marketing skills for buying, selling, letting property or taking tenancies (rule 26).
d) Valuation skills: the Rules and Regulations of Practice of estate surveying and valuation profession defines the professions as the art and science of practice of valuation, acquisition, managing and development of estates for the purpose of securing optimal land use and resources (Rule 38). The core of the professional practice of estate surveying and valuation hinges on valuation of property assets of all types, property and facilities management, property acquisition and development (Rule 38 a & b). The key skills sets required for effective delivery of such professional services are valuation skills sets, property and facilities management skills sets (for land use management, preparation of tenancy agreement for short leases and building services and maintenance skills), property development (financial appraisal) skills sets and property acquisition skills sets.

The Valuation Standards and Guidance notes of the NIESV give further insight into the content of valuation skill set. This comprises skills for interpretation of market forces of demand and supply that affects real estate valuation, enterprise management skills, marketing skills, analytical skills, critical reasoning and judgment for comparative approaches to valuation, property measurement skills, skills for collection of market data, analysis and interpretation of data, skills for application of appropriate methods and techniques in valuation, skills for classification of property assets and application of different rules and laws that border on valuation. Other skills that connect to valuation are ICT skills and valuation reporting skills for effective communication of the valuation assignment to the client- for proper description of the property and skills for compliance to ethical standards for valuation.

REVIEW OF GUIDELINES FOR THE TEST OF PROFESSIONAL COMPETENCE

The test of professional competence is a period of structured training and practical experiences at the end of which an intending surveyor is assessed to ascertain the person's competence to carry out the work of a qualified surveyor and valuer. To be professionally competent is to have the skills or ability to perform professional functions/tasks (Wilkinson, 2005). The guidelines for the test of professional competences (2007) specify the requirements to enter for the test of professional qualifying examinations. To be eligible to enter for the test of professional competence, a candidate is expected to be well grounded in at least 4 areas of the REM core competences comprising valuation and investment, property and facilities management, real estate development and agency. Such a candidate is expected to have adequate **knowledge of the profession,** understand his duties to the employers, duties to the clients and demonstrate ability to effectively communicate orally, in writing and graphically. The candidate is also required to:

- Show evidence of attendance to professional activities like conferences, seminars, workshops conferences on diverse professional and current issues and mandatory CPD organised at the State or national level.
- Document a log that evidences the candidate's practical experience for a minimum period of two years.
- Submit critical analysis produced under close supervisions of an experienced surveyor.

What skills does a candidate need to have to be able to meet these requirements? It is expected that a candidate needs research skills set for data collection and presentation, analysis, interpretation, numeracy skills, reflective and reflexive writing skills, critical thinking skills for effective report writing and presentation. The need to submit and physically defend a critical analysis of one's professional experiences also indicates that a candidate should possess **communication skills** to effectively communicate in writing and orally, and presentation skills, using multi media.

3.5 Relationship between the Professional Standards and Graduate Outcomes (NUC Standards)

Among the key objectives of real estate management education in Nigeria are to "develop in students entrepreneurial skills of value for self-employment in the profession… in an ever changing economic, technological and political environment" (BMAS, 2007).

By implication, a prospective real estate graduate/practitioner is expected to be exposed to entrepreneurial skills of value for REM practice in the course of studying in the university but this is not the case. The current practice is that REM students are exposed to the same entrepreneurship course generic to all the students in an institution's entrepreneurship

development centre. The generic entrepreneurship course has been entrenched into the polytechnic programme through the NBTE curriculum. A couple of universities have also introduced entrepreneurship course which either follows the generic pattern offered by the polytechnics or contents that tend towards human resources management programme. None of the HEI in Nigeria offers the entrepreneurship education in a manner that develops in REM students the entrepreneurial skills of value for REM professional practice as intended by the NBTE/NUC standards.

A critical evaluation of the standards for REM education and practice reveals that skills-sets stipulated in the professional standards are closely aligned to the graduate outcomes expected from effective REM education. However, there are two important gaps. Firstly, the professional standards do not explicitly specify entrepreneurial skills as one of the relevant skills for REM practice but this is clearly stipulated in the NBTE and NUC standards for real estate management education in Nigeria. This leaves the academic institutions with the responsibility for driving entrepreneurship education to ensure that REM students are equipped with skills for being entrepreneurial in the practice of REM profession on graduating from the higher educational institution.

Secondly, the university REM curricula which implement the NBTE/NUC standards for REM education do not have entrepreneurship entrenched in the discipline curricula to enable REM educators teach students entrepreneurship in the context of real estate management discipline.

Most of the university REM curricula do not clearly emphasis demonstration of skills including entrepreneurial skills in the learning outcomes, despite the high level of importance placed on entrepreneurship by both the professional and academic standards. This is very important because the professional standards still rest on the NUC standards and the implementation of the standards through the university curricula.

Ultimately, it is the NUC that has the power to approve institutions where academic programmes for REM can be established. That being the case if students are not made to demonstrate such skills through an outcome based learning, teaching and assessment (LTA) process, they are likely to exhibit such weaknesses on graduation from the higher educational system.

Table 3.4.7 below relates professional standards with entrepreneurial attributes.

RELATIONSHIP BETWEEN PROFESSIONAL STANDARDS AND ENTREPRENEURIAL ATTRIBUTES

PROFESSIONAL SKILLS	ENTREPRENEURIAL ATTRIBUTES
1. Core practice areas i. Enterprise management skills sets ii. Business leadership skills sets iii. Accountability skills sets iv. Real estate Agency and property marketing skills v. Property and facilities management skills sets vi. Property development (financial appraisal) skills sets vii. Skill sets for land administration and management **2. Valuation skill-set** - Data collection and presentation skills - Data interpretation skill - Data analysis skill - Imaginative skills - Critical reasoning and judgment - Measurement skills - Report writing skills - Asset identification and classification skill - Skills for Compliance to ethical standards - ICT skill-set **3. Skill sets for meeting the requirements of the test of professional competence** i. Communication skills set comprising - writing skills - Oral communication skills - Presentation skills ii. Research skills comprising - Critical thinking skills - Critical analysis skills - Data collection and presentation skills, - Data interpretation - Numeracy skills - Reflective and reflexive writing skills iii. Record keeping skills Problem solving skills iv. Networking skills v. ICT Skills	i. Psychological attributes like: - Values orientation - Creativity - Risk taking - Self esteem - Innovation ii. Behavioural attributes - Self confidence - Task result orientation - Leadership - Innovative approach to problem solving - Readiness for change - Risk taking - Originality and future orientation - Networking skills - Ability to work strategically - Team spirit - Self-drive and motivation for achievement - Initiating new ideas - Mind-set to seek advice and exploit opportunities for a positive change - Setting up new business

Critical examination of the links between the professional standards and entrepreneurial skills as listed in the table above shows that possession of entrepreneurial attributes will

provide a REM practitioner with soft skills that enables the blending of the other skills for effective professional practice. Furthermore a critical evaluation of rules 10 and 31 of the Rules and Regulations of Practice of Estate Surveying and Valuation reveal that entrepreneurship is really at the heart of the real estate surveying practice. It is entrepreneurship that arouses the other surrounding economic activities in the real estate practice processes.

The essence of real estate practice organism namely enterprise leadership and management, creating, managing and trading space over time are all entrepreneurial activities that require possession of entrepreneurial attributes for efficiency. The result is that entrepreneurship is well known and recognized in real estate practice yet the skills are not among the topics taught by real estate educators and professionals in Nigeria or anywhere around the world (Diaz, 1993; Black and Rabianski, 2003). There is no deliberate strategy in the REM curricula for training and equipping REM students and the new graduates with the relevant entrepreneurship skills in the context of REM discipline.

The real estate profession is regarded as being innately entrepreneurial. As such new graduates are expected to learn the skills practically by working under established surveyors and understudying their practices but this has not been effective in improving the young graduates' entrepreneurial practice. Recent studies have shown that pressures to secure instruction in ever increasing complex and stringent standards of practice is a major challenge for REM practice in Nigeria and calls formal training for non-professionals (Oni & Adebayo, 2012). Oladokun (2012) on the order hand argue that there is the need to overhaul of the curricula for REM education to allow incorporation of enterprise knowledge for REM discipline. Training the REM students to be entrepreneurial right from the higher education will go a long to address the challenge. The fact that the REM profession is perceived as being innately entrepreneurial presents a big challenge to established REM practitioners having a deliberate strategy for equipping young graduates with entrepreneurial mind-set or supporting embedding entrepreneurship in REM curricula. As a result the ESVARBON and NIESV may not see entrepreneurship as a teachable course or skill. However if the young graduate has not received any formal training on how to be entrepreneurial in the context of REM discipline, she may not even recognize those skills in his mentor in the course of acquiring professional experience by working with an experienced surveyor.

The situation would be different if the young graduate is exposed to the rudiments of entrepreneurship skills and attributes relevant to REM practice in the process of the academic study in the higher educational system. This way, the training received from HEI curriculum should be made to complement the on-the-job practical training received in an

approved real estate surveying and valuation office on graduation from the higher educational institution.

We feel there is a strong need to innovate the REM education to enable the learning and practice of the profession to be entrepreneurial and that is what this research seeks to make the first move in that direction. There is need for the higher education to drive entrepreneurial learning for REM and effective embedding of the training in the REM curricula for university education.

3.6 Summary and Conclusion

The reviews in this chapter support work in Objectives 2 and 3 of the research. The outcome of the study in this chapter is an understanding of the elements of LTA that define an ideal curriculum generally, the skills-set or graduate outcomes which effective REM education is expected to provide, and the nature of learning outcomes and LTA practices that will help students realise those skills. This understanding enables a critical evaluation of the skills-set against the elements of ideal curriculum to gain insight into the nature of the relationship between the professional standards and graduate outcomes; and the LTA activities that help students to learn those skills.

The insights guide the survey design for students' and lecturers' conceptions of learning, teaching and assessment practices in the traditional curriculum for REM education, with a view to understanding the gaps in learning. The analyses are presented in chapters 6 and 7 and critically discussed in chapter 9 of the thesis.

The critical analysis of the professional standards gives insight into the links amongst the professional competencies, entrepreneurial attributes and graduate outcomes from REM education. The theoretical contribution of the study consists in a deeper understanding of how the professional competencies for REM practice relate to REM education and entrepreneurial learning.

The analysis also supports the discussion of results of the survey of the REM practitioners which gives insight into an understanding of how well employee REM graduates meet the professional standards (Chapters 8 and 9 of the thesis).

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter deals with detailed description of the methodology and nature of data used to investigate the research objectives and questions stated in chapter 1. The chapter describes the data, the sampling framework for the data collection and the limitation of the research. It further gives an overview of the methodology illustrating how the methodology is systematically linked to the research objectives and questions. The chapter summarises the techniques for analysis of the survey data and characterizes the data analysis procedures for the research. This characterization also connects the methodology to the appropriate aspects of the philosophy of the research, for example, quantitative versus qualitative research, mixed and multi-methodology, and positivist versus normative paradigms. This overview of the linkages provides a methodological framework that is easy to understand and follow through.

The rest of the chapter is as follows:

4.2 Data collection and the sampling framework

THE RESEARCH DATA

The data for the research is made up of primary and secondary data. Primary data consist of responses to the questionnaire survey of final year students and academics from real estate management departments in the Nigerian universities, and the experienced real estate surveying practitioners. Other sources of primary data are the National Universities Commission (NUC), who provided the benchmark curriculum and Nigerian universities that offer real estate management programmes, who provided the curricula that implement the NUC standards. The relevant bodies that regulate the standards for professional practice, Nigerian Institution of Estate Surveyors and Valuers (NIESV) and the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON), provided the relevant documents reviewed for background knowledge and critical insight used to discuss key research issues analysed in this research. The secondary data comprising journal papers, research reports and conference papers reviewed for the theoretical foundation of knowledge for the research were obtained mainly from searching data bases using the internet.

SAMPLING FRAMEWORK

There are three clusters of population for this research namely the real estate surveying practitioners, real estate management academics and students in the Nigerian universities. Samples were taken from the different clusters for the purpose of the survey.

For the academics the interest was to understand the current LTA practices and learning experiences of lecturers and students in the accredited real estate management departments of long standing and those that have attempted some form of entrepreneurial innovations. As explained in Chapter 3 above, the National Universities Commission, (NUC) is the federal authority that regulates the standards for university education in Nigeria for all disciplines, while the Estate Surveyors and Valuers Registration Board of Nigeria, (ESVARBON) is the authorized body that regulates the education and practice of real estate management in Nigeria. Possession of accreditation from both NUC and ESVARBON is a measure of quality assurance for REM programs in the Nigerian universities. In the case of REM practitioners, the interest was on principal practitioners who employ or mentor young REM graduates.

SAMPLE SELECTION AND LIMITATION

Purposive sampling technique was used to select Nigerian universities that meet the criteria required by the researcher. The researcher prepared a list of all the universities that offer real estate management programme and then carried out a subjective quality assessment check with the NUC and ESVARBON to ascertain the accreditation status of each of the universities. Out of the twelve universities with full accreditation from both NUC and ESVARBON to run real estate management, seven were purposefully selected bearing in mind their peculiar nature and relevance to this study.

The universities selected are: the University of Nigeria, Enugu Campus; Obafemi Awolowo University, Ile-Ife; University of Lagos, Akoka-Lagos; Covenant University, Canaan Land Ota; Federal University of Technology Minna; and Cross River University of Technology, Calabar. These are selected on the basis of their being the universities of longest standing in terms of REM education in Nigeria and the few that have attempted some entrepreneurial innovations. All the REM lecturers in the six universities therefore constitute the sample for the survey of REM academics.

In the case of REM students, the final year (500 Level) undergraduate students of the same universities that fall within the sample were also selected for the survey for the same reason that the universities were selected. Final year students were selected for the survey because they are considered to have enough experiences having gone through all the

stages in the learning experiences in order to be in a better position to respond to the questionnaire items meaningfully.

In the case of survey of REM practitioners, real estate surveying firms were randomly selected from a cross-section of Nigerian cities namely Abuja, Lagos and Port Harcourt, where there are vibrant economic activities. Abuja is the Federal Capital City of Nigeria; Lagos is like the commercial capital being the base of the Nigerian sea ports while Port Harcourt is the “oil” city. These are cities of very vibrant economic activities with lots of real estate surveying activities and active participation in professional practice. Most of the real estate surveying firms have their head offices located in any of those cities. The sample therefore gives a better cross section of principal partners of real estate surveying firms well experienced in professional practice and working with or mentoring young REM graduates. All the principals of real estate surveying firms in those major cities constitute the sample for the survey of the practitioners.

The use of universities and REM practitioners that meet set criteria for this study constitutes a limitation to the sample size for the REM academics and practitioners. The number of lecturers in a typical university REM program is quite small and only a couple of the universities meet the relevant criteria. The selection criteria set a boundary for the sample and this posed a constraint to the researcher selecting further samples. The result is that the sample size is small even though we surveyed all the lecturers and principals of REM firms in the purposefully selected universities and cities. This poses question of representativeness and bias of the responses.

However, purposive sampling has a quasi-random nature since we do not know the respondents personally, although we have purposefully selected their institutions their responses are not biased and the data is reliable. Again, the universities have different characteristics and we have carefully selected those that meet some requirements that make the result we expect to get more useful. Given the fact that we do not show any preference to respondents, their responses are reliable and the result is equally generalizable to the universities of their type.

Furthermore, the use of mixed methodology for the research provides effective triangulation that improves the validity of the data and the result of the research. For example, an intense focus group debate was used to draw further insights from the experiences of selected experts in REM education and practice on the problems of dysfunctional pedagogy in REM. The focus group contributes expert opinion that complements the field survey of experiences and opinions of the lecturers, students and practitioners on the issues. Insight drawn from the critical evaluation of the standards for REM education and professional

practice, and the traditional university curricula that implement the standards also provide triangulation that further validates the data for the research.

DATA COLLECTION INSTRUMENT

Three sets of questionnaires were used to collect survey data for this research- the questionnaire for REM academics, students and another set for REM practitioners (Appendices 1, 2 and 3). The questionnaires for REM academics and students consist of the biographic and main sections. The biographic questions are designed to give background information that classify and characterize the nature of curriculum in use and the qualifications of the lecturers. The main section of the questionnaire probes the LTA issues in REM discipline. The questionnaire for academics and students are designed in such a way that they answer similar sets of key questionnaire items.

The questionnaire items are made up of a mix of open-ended and close ended questions. Open ended questions are used to elicit the respondents' comments or views about whether or not the REM profession is inherently entrepreneurial in nature. This was designed to be open ended to allow the respondents enough freedom to express their views on such a pertinent issue, irrespective of the fact that such items are more difficult to analyse (Miller, 2002). To forestall the shortcoming of being difficult to analyse, the use of open ended questions were minimized by using them only when it is considered as the best option to probe the issue and elicit valid response.

Most of the key items are close-ended. Close-ended questions are considered as the best for probing opinions and behaviours; they give opportunity to probe large number of variables, but have a disadvantage of wording of the questions being more difficult and time consuming (Oppenheim, 2009). We examined the pros and cons of the arguments by Oppenheim (2009) about close- ended questions. Based on the fact that it is the best for eliciting opinions and behaviours (of lecturers, students and practitioners) and considering the various issues of interest in this research, and the large volume of data required to address the various objectives of this research, we decided to make all the items in the rest of the main sections close-ended.

The questions were likert scaled and respondents required to tick the appropriate items of choice. This made it easier for REM academics, practitioners and students to be able to answer such large volume of questions to ensure high response rate. This put a lot of strain on the wording of the questions but then the benefit of having a higher response rate and being easier to analyse is worth the effort that compensates for the time spent on wording of the questionnaire items (Oppenheim, 2009).

QUESTIONNAIRE PILOTING

Before distribution, the questionnaires were piloted by a small sample of REM academics, students, REM practitioners, and some research buddies. The observations and comments from the pilot were mainly on the lengthy research questionnaire and the broad nature of the key research prompting the need to re-scope. The observations were discussed and agreed with my supervisors after which the necessary adjustments were effected and reflected in the final instrument for distribution. A proper explanation was given in the cover letter to the respondents about why the research instrument is longer than the normal research questionnaires. Being a seminal research work it is necessary to cover broad perspectives to provide a strong enough background data base on which subsequent research can be based.

The scope of the study was also slightly adjusted by removing data on polytechnic education. This was considered necessary because of the remarkable difference between the University and Polytechnic education in Nigeria. The changes were made without adverse impact on the objectives and the purpose of the work. With these adjustments the theme of the study remains a look at innovations in the pedagogy and practice of real estate management in Nigeria with a focus on the undergraduate real estate management education in Nigerian universities.

The practitioner strand of the study enables an understanding of how young graduates of REM are performing in practice in the opinion of the experienced practitioners.

ADMINISTRATION OF THE QUESTIONNAIRE

The questionnaire was administered manually to the universities and REM practitioners and followed up by email contacts and phone calls to monitor when the responses are ready for collection.

Seventy one (71) questionnaires were distributed to the university lecturers and forty seven (47) were filled and returned. Three (3) of the 47 questionnaires were disqualified for not being properly filled leaving a total of forty four (44) valid responses. This represents 61.97% response from survey of REM academics.

The universities have varied number of students in the final year class from which an average of forty (40) students were randomly selected from each of the six universities to make a sample of 240 students. A total of two hundred and forty (240) questionnaires were distributed to students out of which two hundred and seventeen (217) were completed and returned. Seven (7) questionnaires were disqualified for not being properly filled leaving a total valid response of two hundred and ten (210) questionnaires. This represents 87.5% response.

A total of 175 real estate surveying firms were randomly selected and the principal partners asked about the practices of the young graduates in their organisations. 95 questionnaires were returned representing a 54.3% response.

The surveys were conducted between March and May 2012.

4.3 Overview of the methodological framework for the Research

The overall framework for the research is presented in Figure 4.1 below.

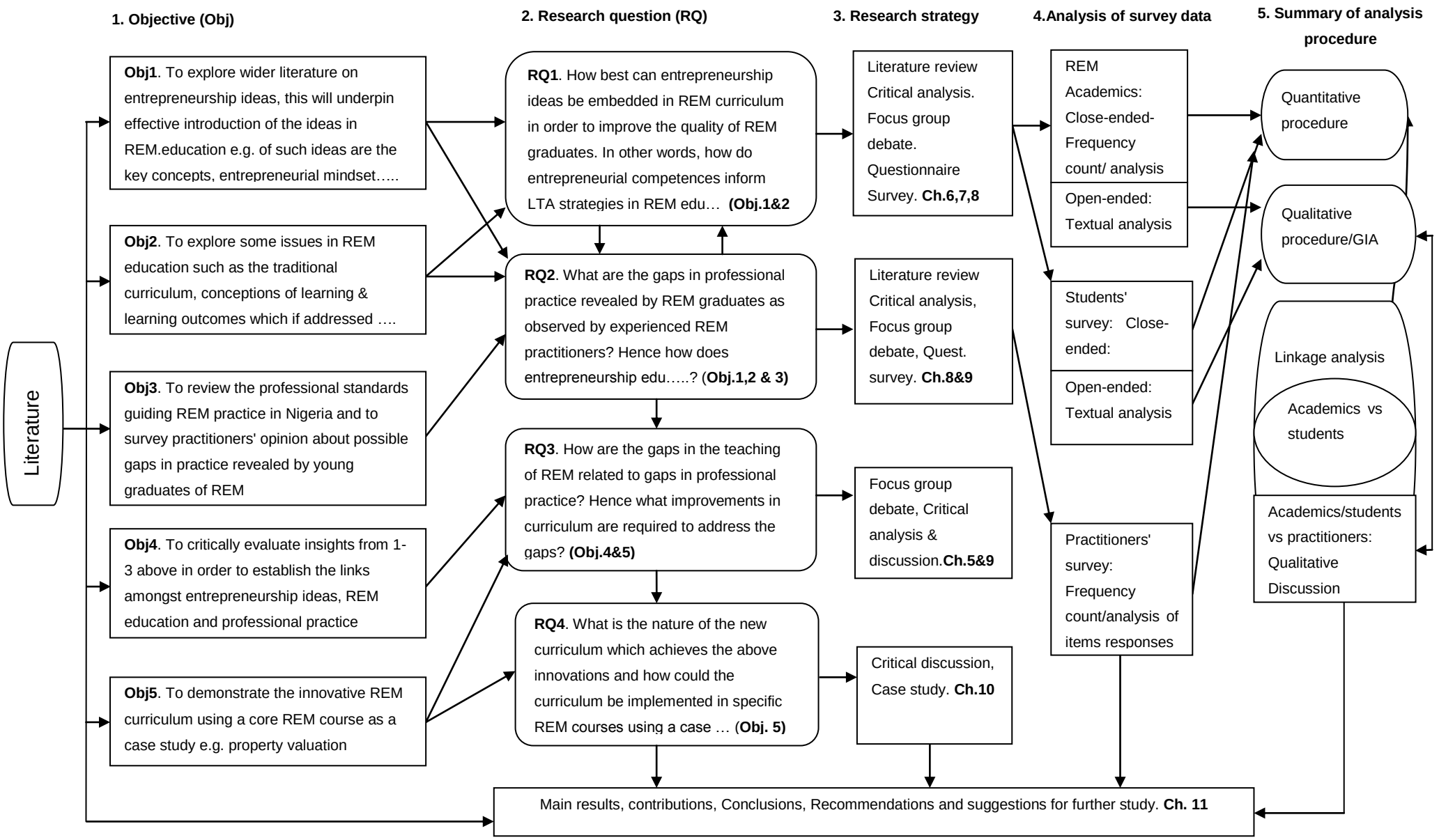


Fig. 4.1 Overall methodological framework for the research with links among the research objectives, questions, strategy, analysis procedure, key issues and their thesis chapter

DETAILED DISCUSSION OF THE LINKAGES IN THE FRAMEWORK

Columns 1 and 2

For easy follow through, the researcher restates the objectives in Column1 with their original linkages to research question in column 2 as earlier discussed in Chapter 1 of the thesis.

These are strategically linked to Column 3 which summarises the methods/strategies through which the research objectives and questions are investigated. As shown on the framework, the strategy/methods include literature review, critical analysis, focus group debate, questionnaire survey and case study.

Recall from the notes in chapter 1 that the case study is focussed on demonstrating the innovative and entrepreneurial curriculum for teaching a core REM course- property valuation, which indicates how such curriculum could be developed for other courses. The column (3) also indicates the chapters of the thesis in which the issues/outcomes associated with the research questions are discussed based on the linkages. For example, the top box in that column indicates that the research issues/outcomes related to research question (RQ1) are discussed in chapters 6, 7 and 9 of the thesis. Similarly as in the other boxes, the issues/outcomes for the other research questions (RQ2, 3 and 4) respectively are discussed in chapters 8 and 9, (for RQ2), 9 and 10 (for RQ3), 10 (for RQ4) and then the main findings of the overall research and contributions to knowledge summarized in chapter 11 of the thesis.

Column 4 in the framework maps the research strategy/methods outlined in column 3 to the data analysis procedure. Within the top two boxes of the column 4 which summarise the analysis of survey data for REM academics and students, and the bottom box which summarizes the procedure for the practitioner survey data, there are two main types of questionnaire items namely, open-ended and close-ended questionnaire items. Looking at the research questionnaires items (Appendixes 1, 2 and 3), it shows that the majority of the questions are close-ended questions on a 5-point likert scale, except items 7 and 8 of the academics' and students' surveys which are open-ended questions.

Since the close-ended questions involve frequency counts and analysis of responses to those items, their treatment in the analysis of data is quantitative. An arrow links those items in column 4 to the quantitative summary of analysis procedure in column 5. Contrariwise, because the analyses of the open-ended items in the two questionnaires under reference are text based, they are linked to qualitative procedures in column 5.

As foreshadowed in their linkage to column 4, the summary of analysis procedure in column 5 shows additionally the nature of quantitative and qualitative techniques used in the analysis. The likely summary statistics that will be produced under the quantitative technique include, mean and average proportion of counts which belong to the different levels of the item responses (5-point likert scale) as appropriate.

Similar linkages between the opinion of the REM academics and students on the one hand and those of the practitioners on the other hand will be achieved through comparative discussion of the research findings across the groups of research subjects. This is why in the column 5, in the appropriate boxes the item linkage analysis is used, for example to compare the opinions of the academics and the students. Likewise, qualitative discussions were used to compare the findings relating to the opinions of academics/students on the one hand and the REM practitioners on the other hand.

Rationale for the framework

It is clear from the above notes that the framework shows the linkages among the objectives, key research questions and the methods. The key advantage of this framework is that it virtually illustrates how the research objectives and the associated research questions are actually explored using the mixed methodology evidenced in column 5 of the framework.

This way the mapping gives an overview of the linkages in the methodological framework in a way that is easy to understand and follow through.

For example, we use research question (RQ1) to illustrate the benefits of the linkages described in the overall methodological framework, as shown in Figure 4.1. RQ1 seeks answers on how best to embed entrepreneurship ideas in REM curriculum in order to improve the quality of REM graduates. In effect, it seeks to understand how entrepreneurial competences inform LTA strategies in REM education. The question derives from key themes in objectives 1 and 2. In order to investigate research question 1 (RQ1) therefore, the method/strategy mainly involves **review of literature** on the indicated entrepreneurship ideas and curriculum related issues in ideal learning that will help to improve REM education and the quality of graduates. The background knowledge from the literature, the critical evaluation of documents, insights from the **focus group debate and analysis of the survey data** support a **critical discussion** of how best to embed entrepreneurial skills in the teaching and learning of REM, so as to overcome possible gaps in learning.

Insight from the focus group expert debate indicate that the focus on the choice of teaching approaches should be on the end users (the students and their employers on graduation) so that the students are made to learn how to use what they learn for solving societal problems. We then used a **questionnaire survey of REM academics** to elicit data from the

lecturers about their current LTA practices in the traditional curriculum and how entrepreneurial ideas inform such practice, with a corresponding survey of REM students to elicit data about their LTA experiences in REM programme. As the real estate surveying practice is a prominent beneficiary of the university education through the services of the graduates, we carried out a questionnaire survey of the REM practitioners to elicit their opinion about the gaps revealed by the young REM graduates in their practice.

Looking at figure 4.1 again in the RQ1 box, it will be observed that investigation of RQ1 does not just address the corresponding objective, (Obj1) but also contributes insight that helps to address Obj.2 and RQ2 as indicated in the arrows linking Obj.1 and Obj.2 to RQ1.

We used a combination of quantitative and qualitative procedures (frequency counts and general inductive approach (GIA)) to analyse and summarise the results of analysis of the survey data. The key issues and outcomes from the investigation of the RQ1 are discussed in Chapter 6, 7 and 9 of the thesis.

The character of the linkages in the methodological framework described in this example about investigation of RQ1 similarly applies to other objectives. The next section further summarises the linkages in the methodological framework for this research work.

SUMMARY OF RESEARCH METHODOLOGY: OBJECTIVES ASSOCIATED WITH THE RESEARCH QUESTIONS AND ISSUES/OUTCOMES

The key success criterion in the methodology is whether it effectively addresses the research objectives and research questions. In this section the researcher summarises how the framework outlined above enables the RQ and objectives which are linked in the framework to be explored.

As originally designed in chapter 1 (introduction) and virtually displayed in the overall framework in this chapter, recall that a research question does not necessarily investigate every aspect of a corresponding research objective. For example, RQ1 does not conclusively investigate Obj1, rather RQ1 and 2 combine to investigate and explore objectives 1, 2, and 3. This is why the treatment of the research objectives in the thesis is based on the research questions to which it is linked, as shown in the overall framework and further explained in this section.

(RQ1); Obj.1&2

To investigate RQ1, we used insights from the general review of literature and the expert opinion on the key research themes- entrepreneurship education and curriculum related issues in real estate management education as discussed in the general review of literature in chapter 2 and 3. Then insights from the literature review and the focus group debate are

combined with the result of the survey of REM academics and students in the discussion of the key results in the specific chapters of the thesis. The key issue in research question 1, (RQ1) concerns how best to embed entrepreneurial ideas and competences in the REM education to make the learning more effective. The key results and implications are discussed in chapters 6, 7 and 9 of the thesis.

(RQ2); Obj.1,2&3

To investigate RQ2, we used insight from the general review of standards for REM education and practice as discussed in chapter 3. The insights are combined with the results from the analysis of the survey data from the REM academics, students and REM practitioners in addition to discussing the result in the specific chapters of the thesis. The key issue is to explore the gaps in REM education and practice in order to gain insight into how entrepreneurship education addresses the gaps. The key issues/outcomes are discussed in chapters 8 and 9 of the thesis.

(RQ3); Obj.4&5

In order to investigate RQ3, we critically evaluated the insights from the investigation of Obj. 1, 2 and 3 above to synthesize the gaps in REM education and practice. We then used critical evaluation of the insights to establish how the gaps in the teaching of REM relate to gaps in the professional practice and curriculum improvements required to close the gaps. The key issue is to relate the gaps in the REM education with the gaps in practice and establish the nature of **curriculum improvements** required to close the gaps. Again we used critical insights from the result of the review of the learning literature about the entrepreneurship ideas; elements of learning, teaching and assessments that define an ideal curriculum; standards for REM education and professional practice and the focus group expert opinion about the key issues to discuss the nature of curriculum innovations required to close the gaps. The key results of the investigation of RQ3 are discussed in chapters 9 and 10 of the thesis.

(RQ4); Obj.5

To investigate (RQ4); Obj.5 we used hints from the NUC BMAS (2007) as our best practice example for curriculum improvements and the UK Quality Assurance Agency for Higher Education (QAA 2012) document as the best practice example for embedding entrepreneurship ideas in specific disciplines to discuss the nature of the emergent new curriculum that achieves the desired innovations. We then demonstrated how such curriculum could be implemented in REM education using a case study of a core REM course (Property valuation). The key issues in RQ4 are the nature of the emergent

curriculum and exemplification of such innovative curriculum. The outcome of the investigation is discussed in chapter 10 of the thesis.

The main findings of the overall research and contributions to knowledge are discussed in chapter 11 of the thesis.

SUMMARY OF METHODS/APPROACHES IN KEY CHAPTERS

The overall study involves the use of a well-argued multi-methodology comprising a critical review of literature, critical evaluation of documents, intense focus group debate, questionnaire survey, a case study and critical discussion of results.

The c**ritical review** of literature with sections devoted to entrepreneurship ideas, key concepts, entrepreneurial mind set and attributes, issues in entrepreneurship education, elements of ideal learning, conceptions of learning, learning outcomes and gaps in learning, gives strong theoretical foundations that underpin the study.

The **critical content analysis** of the national and university curricula for REM education and the professional standards were used to tease out the evidence base for gaps in curriculum practices based on the documents.

Q**uestionnaire survey** was used to elicit the required data for mapping the experiences and opinions of real estate management academic, students and practitioners within the current curriculum to enable identification of further gaps, (**research objectives 2 and 3).**

An intense **focus group debate** was organised to draw from the experiences of selected experts in pedagogy and REM education and practice, with a view to distilling further insights on the problem of dysfunctional pedagogy in REM from the focus group report. The focus group contributes expert opinion which complements field survey of lecturers, students, and practitioners' experiences and opinions on the issues. This is particularly useful for effective triangulation in the study.

The use of a **full case study** enables the demonstration of the new curriculum in a core REM course (property valuation) in order to manifest the pedagogic innovations (mixed pedagogy) expected to close the gaps and re-create the entire learning experiences in real estate management discipline. Patton (1997; Yin, (1994).

The next section discusses how the questionnaire items in the survey relate to the objectives and research questions.

4.4 Mapping of the survey data

This section illustrates how each questionnaire item in the surveys is strategically linked with the research objectives and research questions.

The purpose of the linkage analysis is to show where each item comes into the various stages of the entire research work and to account for the relevance of each questionnaire item to the investigation of research objectives (OBJs.), research question (RQs) and the results. Tracing the relevance this way helps to track the critical insights each item brings into the entire research map. This helps to make the data analysis and the discussion of the results more focused.

Another advantage of the mapping of the questionnaire items is that critical discussion of the insights from the data is more controlled. Considering the fact that this work is quite big and broad based, the need for control becomes imperative to scope and manages information more effectively. With proper information management it is easier to touch the broad perspectives without compromising on the depth.

QUESTIONNAIRE LINKAGE ANALYSIS OF THE SURVEY OF THE REM ACADEMICS AND STUDENTS

The table below (Table 4.1), presents a matrix of how each questionnaire item in the survey of REM academics and REM students is linked with the research objectives (Obj), research questions (RQ) and the overall result (R). The research instruments for the survey of the REM academics and students are attached in the thesis as Appendix 4A and 4B respectively.

Q. ITEMS	OBJ1	RQ1	OBJ2	RQ2	OB3	RQ3	OBJ4	RQ4	OBJ5
Section A									
1a			OA						
1b			OA			QA	OA	QA	
1c						QA		QA	OA
1d	OA	QA				QA		QA	
Section B									
1			**OA,OS**	**QA,QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA**
2	**OA**	**QA**	**OA,OS**	**QA,QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
3	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**		**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
4	**OA,OS**	**QA, QS**				**QS,QA**	**QS,OA**	**QA,QS**	**OA,OS**
5	**OA,OS**	**QA, QS**	**OS**			**QA**	**OA**	**QA,QS**	**OA**
6	**OA,OS**	**QA,QS**	**OA,OS**			**QA,QS**	**OA,OS**	**QS,QA**	**QS,OA**
7	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**		
8	**OS**	**QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
9			**OA,OS**	**QS**		**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
10			**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	

Table 4.1 Matrix of the relationship between each questionnaire item with the research questions and objectives

Table 4.1 above presents a matrix of item linkages for the survey of REM academics and students. Although they are two different categories of respondents, the linkage analysis is taken together because the survey is designed in such a way that both groups respond to the same set of main questionnaire items.

Looking at the table, the item analysis is covered in two sections. Section A consisting of items 1a-1d contains the analysis for the biographical items while section B numbered items 1-10 is the root of linkages for the main questionnaire items. Section A applies to

background information from REM academics only. Section B applies to both REM academics and students.

The codes OA, QA and RA represent the Item linkages to research objectives (OA), research questions (QA) and results respectively in relation to the survey of REM academics. Likewise the codes OS, QS and RS respectively represent the item linkages to research objectives, research questions and results for the survey of REM students. The Item numbers (1-10) are the same for REM academics and REM students because both groups responded to the same set of questions.

Each questionnaire item is intuitively mapped to the research questions, research objectives and the research result. For example, looking at Table 4.1 above again, questionnaire item 1 is connected with objectives, OBJ.2,3&4; and research questions RQ2, RQ3&4 from both REM academics and REM students' surveys. The same item also has a link to OBJ.3 from students' survey but not from REM academics, while the item has link to OBJ.5 from the survey of REM academics but not from REM students. From both REM academics and REM students the item contributes to the overall main research result. However, Item 1 has no links to the research objective OBJ.1 and RQ1. It then means that Item1 falls outside the scope of analysis and discussion of objective OBJ.1 and research question RQ1. This way, the linkage analysis helps to track the relevance of each item, focus the discussion and manage information appropriately.

Details of all the linkages presented in table 4.1 are further discussed below.

SUMMARY OF THE LINKAGES FOR REM ACADEMICS AND STUDENTS SURVEYS

Background data

Items 1(a-d) seek to gain insight into the background information about REM programmes in the universities. This is made up of the benchmark curricula being implemented by the department, location of entrepreneurship in the category of courses for the REM programme, the qualifications of the lecturers and the core REM courses taught by each lecturer. This set of items is particularly important because it provides useful data for triangulating the insight drawn from the critical evaluation of the traditional university curricula for REM which are supposed to implement the National university commission (NUC) bench mark standards. More importantly, it provides insights that contribute in answering some research questions and achieving research objectives.

For instance, **Item 1a** seeks to understand the bench mark curricula being used by the REM programmes in various Nigerian universities. Item 1a question is relevant for achieving OBJ.2 in terms of understanding any gap between the university curricula and the NUC

benchmark standards. **Item 1b** explores the background qualifications of the REM lecturers and is relevant for understanding the learning gaps linked to OBJ.2 and RQ3. Analysis of responses to Item 1b will help to gain insight into whether the REM lecturers themselves are part of the learning gaps. For instance, if the lecturers are subject matter experts without any teaching qualification, they may not have the capacity to effectively interpret and deliver innovative curriculum. Hence the item also contributes to achieving OBJ.4, and RQ4 - what improvements in the curriculum are required to close the gaps and capacitate the REM lecturers to deliver the innovative curriculum.

Item 1c Core REM course taught, contributes to understanding of the LTA strategies, gaps in learning and the nature of the new curriculum that addresses the gaps (RQ3, RQ4 & OBJ.5).

Item 1d examines the location of entrepreneurship in the categories of approved courses for REM programmes. It gives insight into whether entrepreneurship is a mainstream or peripheral course in the department as a means of determining the level of importance attached to entrepreneurship education. The item is relevant in achieving OBJ.1, RQ.1 for the purpose of understanding how best to embed entrepreneurship education into the REM curriculum. It is also relevant for understanding of learning gaps, how to close such gaps and overall, contributes insight that informs curriculum improvement - RQ3 & 4.

Item 1 Conceptions of learning

Item 1 seeks to gain insight into the experts' (REM lecturers) and the students understanding of knowledge/learning in real estate management.

The item contributes mainly to understanding of the learning gaps and how they relate to gaps revealed in practice by young graduates, (OBJ.2, RQ2, OBJ.4, and RQ.3). It also contributes to OBJ.5, RQ4 because it is necessary that the case study talks to how REM academics and students conceive learning, since this is an opportunity to correct any gaps in REM education.

Details of how item 1 relates to objectives, research questions and main results from lecturers' and students perspectives can be identified from the table1 by OA, OS (for objectives); QA, QS (for research question). This applies to the details in the subsequent sections.

Item 2 Teaching practices

The insight this item brings into the research map is linked to RQ1; OBJ.2; RQ3; OBJ4,RQ4 and OBJ5 because we want to gain insight into the methods lecturers are using in teaching the students i.e. whether the REM lecturers are applying mixed methods in their

teaching of REM courses. Understanding the current approach by the lecturers will inform the innovations in pedagogy (OBJ4, OBJ5) and demonstrating of how to implement such innovation in a case study to achieve effective learning outcomes (RQ4). An example is how to implement innovative learning ideas from the learning literature such as Kolb's learning cycle of constructivist learning, deep learning, and other strategies that encourage higher order skills learning in the case study.

Item 3 Teaching of entrepreneurial skills and attributes

This question gives insight to whether entrepreneurial skills and attributes are reinforced in the teaching of REM courses and whether there is a deliberate strategy for teaching of such skills in REM education. This item contributes to OBJ.1, RQ1. It also contributes to the study of gaps and the improvements in the curriculum that will help to close the gaps (OBJ.2, RQ3).It is also relevant to RQ2 because of the need to understand whether the teaching methods contributes to gaps revealed in practice by young graduates. Furthermore, insight from Item 3 is relevant to OBJ.4, OBJ.5 and RQ4 as it informs the design of entrepreneurial curriculum and demonstration of same in a case study REM course.

Item 4 Preferred approaches to entrepreneurship education

Item 4 seeks to understand the REM lecturers' and REM students' preferred approaches to entrepreneurship education. Insight from Item 4 is relevant for understanding how best to embed entrepreneurship into the REM curriculum (OBJ.1, RQ1). It also contributes to understanding of the ideal approach for curriculum improvement and demonstration of such approach in a case study REM course (OBJ.4, OBJ.5, RQ3 and RQ4).

Item 5 Opinions of REM lecturers and students about ideas and contents to include in a typical entrepreneurship course.

Item 5 brings insight to answering OBJ.1, RQ1, OBJ.2, RQ3, OBJ.4 - links between entrepreneurship, REM education, professional standards and how best to embed entrepreneurial ideas into the REM curriculum. Overall, this questionnaire item contributes insight that is relevant to OBJ.5, RQ4 where such ideas and content are to be reflected in a new curriculum.

Item 6 Lecturers'/students' opinions about who should teach entrepreneurship

Item 6 is relevant for achieving OBJ.1, RQ1; OBJ.2, RQ3 understanding about improvements required in the curriculum and how best to teach entrepreneurship to improve the quality of REM graduates. The insight also contributes to the development of the new curriculum and strategies to be adopted in implementing entrepreneurial curriculum (OBJ.4, RQ4 and OBJ.5).

Item 7 Opinion about whether REM profession is inherently entrepreneurial

Lecturers'/students' opinions about whether REM profession is inherently entrepreneurial.

Insight from Item 7 is relevant for addressing OBJ.1,RQ1, OBJ.2, RQ2 about how the entrepreneurial competences inform the LTA strategies and how entrepreneurship education addresses the learning gaps. It also contributes to OBJ.3, RQ3 and OBJ.4, about understanding of how the gaps in teaching and learning of REM relates to gaps revealed by REM graduates in practice.

Item 8 Suggestions on how to make the training of REM students more entrepreneurial

Insight from Item 8 is relevant for achieving OBJ1, RQ1; OBJ2, RQ2; OBJ.3, RQ3, OBJ.4, RQ4 and OBJ.5. It contributes insights similar to item 7 in addition to demonstration of the innovations in a new curriculum.

Item 9 Assessment practices in the REM curriculum

Item 9 seeks to understand the strategy for assessment of the learning outcomes in REM discipline. It contributes useful insights for achieving OBJ.2, RQ3, helping us to understand whether the assessment practices contribute to the learning gaps. This insight will contribute to the ideas in the design and demonstration of a new curriculum (OBJ.4, RQ4 and the OBJ.5).

Item10 How strongly does REM education equip students with relevant skills

Item 10 explores whether REM education achieves the NUC objectives for REM education by equipping students with the relevant skills-set/graduate outcomes intended by the NUC benchmark curriculum. Item 10 is relevant to OBJ.2, RQ2; OBJ.3, RQ3; and OBJ.4; and RQ4. The analysis will contribute to the overall understanding of whether the REM education equips students with the basic skills for effective practice on graduation.

The matrix of item linkages for the survey of REM practitioners is presented and summarised in the next session.

QUESTIONNAIRE LINKAGE ANALYSIS FOR THE SURVEY OF REM PRACTITIONERS

The intuitive mapping of the questionnaire items for the survey of REM practitioners with the objectives and research questions is presented in this section. The matrix of the relationship is illustrated in table 4.2 below and the questionnaire is attached to the thesis as Appendix 4C.

Q. ITEMS	OBJ1	RQ1	OBJ2	RQ2	OBJ3	RQ3	OBJ4	RQ4	OBJ5
1									
2				QP	OP	QP	OP		
3				QP	OP	QP	OP		
4				QP	OP	QP	OP		
5a				QP	OP	QP	OP	QP	OP
5b				QP	OP	QP	OP	QP	OP
5c				QP	OP	QP	OP	QP	OP
5d				QP	OP	QP	OP	QP	OP
6		QP	OP	QP	OP	QP	OP	QP	OP

Table 4.2 Matrix of relationship between each questionnaire item with the research questions and objectives

Looking at the table, OBJ. represents the research objectives; RQ represents the research questions. Items 1-6 represent the questionnaire items in the survey of REM practitioners. OP, QP and RP are used to illustrate how the items in the survey of REM practitioners relate to the objectives (OP), and research questions (RQ) and the overall result (R). The matrix of relationships illustrated in the above table is further discussed below.

DISCUSSION OF THE ITEM LINKAGES FOR THE SURVEY OF REM PRACTITIONERS

Questionnaire Item 1-4: Background information

Items 1 to 4 of the REM practitioners' survey was designed to elicit background information about the graduation and qualification experiences of the chief executive of the organisation and the nature of professional activities engaged in by the organisation. This information was considered necessary to ensure that the respondent has top rank professional experiences and that young graduates have opportunity of exposure to relevant professional practice experiences in the organisation. Insights from the background information are relevant to the understanding of gaps in professional practice revealed by young graduates and how the gaps are related to the identified gaps in REM education (RQ2, OBJ3, RQ3 and OBJ4).

Items 5: Opinion of REM practitioners about demonstration of relevant skill-sets by young graduates

Item 5a-d explores the extent to which young REM graduates demonstrate the technical knowledge and relevant skills-sets for effective REM practice. Items 5a, 5b, 5c and 5d give insight into the extent to which young graduates demonstrate technical knowledge, professional competency skills-set, and entrepreneurial skills-set respectively. Out of the

core REM courses, detailed information was required about young graduates' demonstration of valuation skills-set only. This is considered necessary to understand the gaps and how to close such gap in the case study. Item 5a-d contributes insight to achieving RQ2, OBJ.3, RQ3; OBJ.4, RQ4 OBJ.5 and ultimately the main results.

Item 6: Practitioners' opinion about whether the teaching of entrepreneurial skills should be inculcated into REM curricula

Item 6 seeks practitioners' opinion about inculcating and teaching entrepreneurial skills within the REM university curricula. The item is relevant to objectives and research questions RQ1, OBJ.2, RQ2, OBJ.3, RQ3, OBJ.4, RQ4, and OBJ.5 and contributes to the results.

4.5 Summary of the item linkage analysis

The section has made tabular presentation of how each questionnaire item in the survey of REM academics and students (Table 4.1) and REM practitioners (Table 4.2) are mapped with the research questions, objectives and the results. It briefly explained the relevance of each item to the research questions, research objectives and the overall result. This makes it easy to understand where each item should feature in the data analysis and discussion of the result thereby giving a boost to effective information management.

The next section presents the philosophical commitment of the methodological framework for the research.

4.6 The philosophical foundations of the research methodology

In this section we want to look at the philosophical foundations of the research methodology that underpins the study. We want particularly to look at a number of perspectives namely the epistemological foundations the ontological status of the work, qualitative versus the quantitative approaches to the study including a case study approach which all amount to a mixed methodology.

We also want to look at the rationale for the use of analytic induction for the research and finally we want to characterize the research in terms of a number of paradigms namely the positivist, interpretive and normative paradigms.

EPISTEMOLOGY AND ONTOLOGICAL STATUS

The three key questions regarding the methodological commitment of a research study are:

1. What is the nature of human behaviour under investigation?
2. With respect to the epistemological basis of a research, is it possible to neutrally observe social reality?
3. With respect to the ontological basis of research does social reality exist independently of the cognitive process through which we understand what is out there.

We can refer to Jill and Johnson (2010), pp. 187-242 for the expansion of these ideas.

For this research, as with the first question, interest lies in the entrepreneurial mind-set, practices, theories and the pedagogical constructs which come into the understanding of the three principal subject groups studied namely the academics i.e. REM academics, their students and the real estate management practitioners.

Concerning the second question, that is the ontological status, the researcher argues that to a large extent the research will involve aspects that can be neutrally observed and aspects of the entrepreneurial studies within a particular discipline example REM that are subjective to the study units and therefore cannot be said to be capable of being neutrally studied. To this extent this research on the entrepreneurial perspectives of the pedagogy and practice of real estate management has mixed interest and therefore requires mixed methodology as argued in this chapter.

There are aspects that can be neutrally studied. For instance, in the study of REM academics and students, our decision to use questionnaire instrument of surveys and discussions to understand their perceptions regarding entrepreneurial matters within REM education, is subjective and therefore qualitative. We have already said that the research is also quantitative in the sense that we are also trying to understand a reality that exists independently of these subjects (i.e. REM academics and students).

In summary, this work has mixed ontological status i.e. it has some aspects that can be studied qualitatively and aspects that can be studied quantitatively. To this extent therefore the methodology we are developing in this chapter is intrinsically a mixed methodology.

THE METHODOLOGICAL COMMITMENT OF THE RESEARCH (MIXED AND MULTI METHODOLOGY)

For the qualitative aspect of this methodology, our approach will be inductive, especially as regards those questions in the research instrument, for example questionnaire items 7 and 8 in the REM academics and students questionnaire, which are text based and are open-

ended questions. These questions aim to elicit the thinking, perceptions and understanding of the academics and students regarding the entrepreneurial aspects of the REM teaching. These aspects are actually inductive and our approach to data analysis in this aspect will be inductive. Similarly, being text based, the transcript of the focus group debate is analysed inductively. However, the analysis of the close ended questionnaire items is quantitative because it uses appropriate test statistics to discuss the frequency scores of the responses to the different Likert scales on the items.

Note that a methodology is inductive when it begins data collection with how the subjects under investigation interprets and makes sense of the phenomenon of study, in this case REM teaching and learning, and the entrepreneurial connotations. Essentially then, this research makes a methodological commitment to the assumption that all human actions or behaviours have internal logics of their own, which must be understood and described in order for researchers to be able to explain them, Jill & Johnson (2010), pp. 147-184.

Within this purview this researcher agrees with Jill & Johnson (2010) that this study explores the internal logics of academics, students and practitioners regarding their experiences with real estate management, re- its teaching, its learning and its practice.

The collective understandings we obtain through analysis of these subjective experiences are that the data we collected from the survey will enable us to reconstruct a sense of a theory of how actually REM education is delivered and practiced and to what extent these processes make REM graduates entrepreneurial.

In summary, the mixed methodology for this research will involve the use of qualitative frameworks to analyse the open ended questions and quantitative framework of statistical data in a data analytic procedure to actually handle the quantitative aspect.

RATIONALE FOR THE USE OF ANALYTIC INDUCTION

We now turn to the rationale for using analytic induction as the preferred qualitative methodology for the open ended questions.

Analytic induction is an “intensive examination of the strategically selected number of cases so as to empirically establish the causes of the specific phenomenon”. (Johnson, 1998) quoted in Symon & Cassel 1998). These authors argue that where, suitably refined and applied, analytic induction is the plausible reconstruction of the reality since it enables researchers to generalise results across the research subjects studied.

This idea applies to this research because the aim of interviews of the academics, students and practitioners of real estate management is to create a working model of how real estate

management education is actually delivered in higher educational institutions in Nigeria and how effectively the learning is delivered entrepreneurially.

Johnson states that induction in the analytic induction process involves reflections on the experiences of social phenomenon. In this study the social phenomenon of interest is REM education followed by formulation of abstract rules and principles that guide future experiences. It is in this sense that this research aims to abstract the respondents' opinions and understanding of the model or the way in which entrepreneurship in real estate management is done in Nigerian higher education context.

It is expected that the research results will enable the researcher to examine perspectives on the traditional curriculum practices that is currently undertaken by the Real estate management academics, the way students actually learn, the curriculum processes that help them to learn, the classroom dynamics and the way the students are led to practice estate management, and possibly the extent to which that practice is entrepreneurial. Hence, the understanding we want to build from this work will help largely in describing entrepreneurial real estate management education in Nigeria.

In a nutshell, the key analytic induction stages include:

1. A rough definition of problem, example poor or non-innovative education or curriculum which leads to producing graduates who are less entrepreneurial.
2. Hypothetical explanation of the phenomenon or key aspects of interest e.g. in this case, the current or traditional curricula, effort within the discipline and educational system to make the teaching and learning of disciplines more entrepreneurial as revealed by establishment of centres for entrepreneurship education in all the institutions. The extent to which academics have imbibed the skill-sets required to deliver this kind of training effectively and also the extent to which these efforts produce results.
3. Examining a number of cases to confirm the relevance or the validity of the explanation i.e. the universities selected to represent a microcosm of the entire Nigerian education system because of how they were carefully selected to represent the system in this way or the different types of educational system or higher institutions in Nigeria.
4. Checking, retaining or excluding cases that fit or does not fit into this description with possible reformulation of the cases to fit within the thinking of the research. In this case the sample institutions we have belong to one large group of investigation that are higher education institutions in Nigeria offering real estate management. So there is really no need for testing for including or excluding cases in a strict way within the framework for this research.
5. Examining cases outside and within the study to determine defining conditions for the hypothetical situation. In this study the cases within are the sampled universities, the cases outside are other institutions in Nigeria which the researcher already knows have

similar characteristics as those studied because they all follow common protocols laid out by the higher education management bodies such as the national university commission or in the cases of polytechnics, the national board for technical education. So there is a case here for saying that the result that we get from this carefully chosen sampled universities or higher institutions can be extended to other institutions in case of the insight they provide for how to improve the teaching and learning of REM and other disciplines in Nigeria in order to make the disciplines more entrepreneurial.

For this particular research we now come to the aspect of evaluating qualitative research to discuss how we actually evaluate the research findings i.e. the findings from this research and we state as follows:

It is argued in the literature that the criteria for evaluating reliability and validity of constructs used in rigorous empirical research is used in natural sciences but should be relevant to the subjectivist and interpretive character of qualitative research such as the aspect of analysing the open ended questions in this research which we are currently discussing. Hence following Guber & Lincolns (1989) of the "authenticity" evaluating criteria which are actually explored in Symon & Cassel (1998), we have four main evaluation criteria which the researcher will use to evaluate the overall success of the research.

1. **Resonance:** This criterion is the extent to which the research process reflects the underlying analytic paradigm or type of qualitative methodology employed in the research. For this study it is shown that key aspects of the research resonate strongly with the analytic induction particularly the general analytic induction (GIA) approach which will be adopted in the analysis of open ended questions. Also the key method of analysis will be mainly interpretive.
2. **Rhetoric**: This is the strength of representing arguments in the study. In this study the researcher has mapped the research questions and objectives to the evidences contained in the questionnaire items used in the study. The researcher has also explained how each item relates to these aims, objectives and research questions. This provides the deepest possible explanation of the research instruments. Hence, making the rhetoric of this study very strong.
3. **Empowerment:** this is the extent to which the findings enable the reader to take action or facilitate change in the phenomenon of study. In this research knowing that the overall aim is to improve entrepreneurial education in Nigeria, the research will be conducted in a way that provides opportunities for HEI in Nigeria to actually understand the entailment of entrepreneurial education and also have a demonstration of how to begin to make the various disciplines entrepreneurial within the pedagogy i.e. through the LTA processes that are designed into the various curricula. The demonstration of the pathways to achieving this are contained in the case study aspect of the work. To

this extent therefore, we can say in this methodology chapter that the research has been designed to improve entrepreneurship education especially in the context of REM teaching and learning.

4. **Applicability:** This criterion refers to readers and stakeholders' and how they can actually apply the findings of the research to their own context. For us, the context that matters here are the individual institutions striving to make the learning and teaching of the discipline entrepreneurial, through the activities conducted in the entrepreneurship studies centres and through also, the teaching of the various courses in the disciplines.

Given the empowerment credentials of the research, a robust methodology describing this chapter has been provided to reproduce results and insights that can enable the stakeholders including the readers and academic institutions in Nigeria, to be able to use the result of the thesis to improve practice. These criteria will be applied in more detail in subsequent chapters of the thesis dealing with c**ritical discussion** of the results in the light of the objectives and also the **contributions of the result to knowledge.**

We now look at the linking of the research aims, objectives and questions in the study. To this extent, we can say that the researcher has done an extensive mapping of the research aims, objectives and questions to questionnaire items used in this study. This enables the items to be effectively used in discussing the extent to which the objectives are achieved in the subsequent chapters of the thesis.

SUMMARY OF THE PHILOSOPHICAL FOUNDATION OF THE RESEARCH

We now summarise the overall methodology in terms of aspects of the methodology that makes it a mixed methodology, a multi methodology and also in terms of the key research paradigms that are related to the methodology.

Firstly, the methodology is mixed methodology as already explained because it combines quantitative and qualitative aspects of the study of entrepreneurship education in REM education in Nigeria.

Secondly, the methodology is multi-methodology because it specifies different and sometimes related ways in which each objective and each research questions is investigated. This produces multiple ways of achieving the overall objectives of the research hence making it a multi-methodology.

In terms of the research paradigms that are involved, the researcher has already explained in the foregoing note that the research is positivist because through the quantitative aspect of the research, the investigator is looking at studying the reality of entrepreneurship education existing outside the subject studied. That is, a kind of realist ontology. It is also

qualitative because it looks at the subjective experiences of the entrepreneurial education that applies to the studied subjects i.e. the real estate management academics, students and practitioners, and to what extent actually entrepreneurship education is being achieved in real estate management.

Overall, the research is interpretive because it deals with explaining the results of the subjective experiences of the research subjects looking at the meaning and the implications of the constructs studied for understanding entrepreneurship education in Nigeria within the particular discipline.

To some extent the research is normative in the sense that by positioning a case study of a key REM course i.e. property valuation, it is actually suggesting the ways in which REM academics can position the pedagogy of the discipline to enable the students to become more entrepreneurial.

4.7 Summary and Conclusion

The chapter provides an overview of the research methodology which underpins the entire study. The chapter describes in some details the research approach as quantitative and qualitative and motivates the philosophical commitment and positioning of the approach within the commitment. This positioning refers to the research as qualitatively interpretive and quantitatively positivist and inductive. It is also empirically grounded in real data. The chapter also discusses the sample selection of the study and the research strategies as well as the data analysis framework that underpins the entire study. The framework in mind includes the analytic approach for handling the open ended questions and transcript of the focus group debate, and the statistical data analysis tools for handling close ended questions which are graded on a likert scale. The chapter also explains the mappings among the research aims, objectives on the one hand and the items in the research questionnaire on the other hand. This enables the researcher to explain the relevance of the questionnaire items for investigating the research questions and objectives. Finally the researcher explains in more detail the philosophical foundations for the research, the rationale and mechanics for using analytic induction, the criteria for evaluating qualitative research and how they apply to this study.

Overall, the methodological map discussed in this chapter provides an effective pathway for using the research results critically in further chapters of the thesis and also triangulating the results which is vital for the discussion of the effectiveness of the research process in achieving the research objectives. It is noteworthy that the questionnaire items were carefully designed to probe the subjective experiences and opinions of academics, real estate management students and practitioners in Nigeria higher education.

CHAPTER 5: THE PHILOSOPHY AND FRAMEWORK FOR DATA ANALYSES

5.1 Introduction

This chapter presents the analyses procedure of data from the survey of the REM academics, students and practitioners. The statistical analysis of data includes basic data description and use of test statistics to confirm significance or otherwise of respondents' opinions across questionnaire items and categories. The summary of the analysis procedure and actual analysis of the survey data from REM academics, students and practitioners are also presented. The transcripts of the focus group debate which forms part of the research philosophy is also analysed qualitatively.

5.1A Conceptual Framework For The Linkage Of Key Research Themes

The conceptual framework explains the linkages between different aspects of the research. It illustrates the main theoretical contribution of the study as:

a) understanding of the nature of entrepreneurial gap in the learning and practice of real estate management discipline

b) the development of entrepreneurial curriculum that closes the gap.

The framework showing the linkages between the key aspects of the research is illustrated as figure 5.0 below.

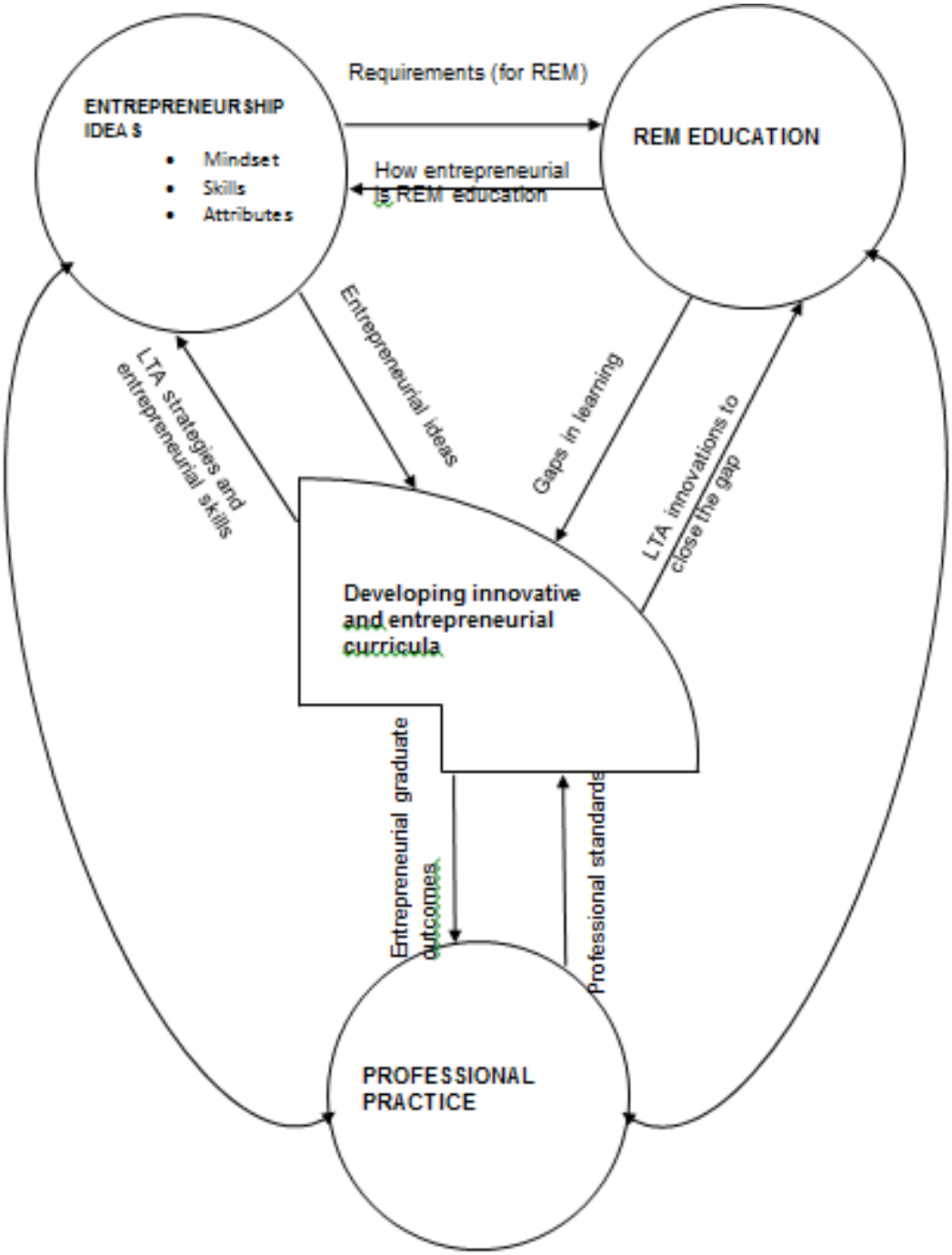


Figure 5.0: Conceptual framework showing the linkages between key aspects of research

The scope of the research combines ideas from entrepreneurship, real estate management education and practice. This scope is also deepened through the examination of gaps in the current LTA practices in REM education, gaps in the professional practice and innovations required to address those gaps. The research is designed in such a way that individual objectives are investigated in a detailed manner, using a mixed methodology as illustrated in the overall methodological framework for the research (See Figure 4.1 in Chapter 4 of this thesis). The depth of theoretical treatment of the subject matter based on such a methodology

and the links to practice and higher educational policy make original contribution to research methodologies.

This is the first work that provides a combined understanding of relationships amongst the three themes and their implications for overcoming gaps in the learning and practice of real estate management. Most current works as surveyed in the literature review in Chapters 2 and 3 of this thesis focus on the themes singly. This does not provide as rich a set of insights from the works as a combined focus for effective higher education policy, as provided by this research.

5.2 The Philosophy and the Research Data Analysis

Heading 1: Introduction

The idea for a debate came up in the course of the research meeting to review the progress of the research work and pull ideas together from the supervisor's comments on the draft questionnaires submitted by the researcher and to enable her produce final research instruments for the work. The main idea is to come up with a template that is rich enough to ensure effective collection of data for addressing the research questions and achieving the objectives. The exchange of ideas among the participants on how best to achieve each of the research objectives enabled the researcher to gain an in-depth and richer understanding of the entire research process and develop effective research instruments. The debate was structured in line with the research objectives and the qualitative analysis in this section follows the same pattern.

Detail of the transcript is in Appendix 5.

Heading 2: Embedding entrepreneurship in the curriculum

Objective 1: To explore the wider literature on entrepreneurship ideas that will underpin effective introduction of the ideas in REM education e.g. of such ideas are the key concepts entrepreneurial mindset and attributes, and issues in entrepreneurship education (Objective one).

The first task for the focus group was to debate on issues about embedding entrepreneurship in the curriculum. The objective of the debate in this section is to clearly define what we mean by embedding entrepreneurship and issues relating to it in the context of this research. The rationale is to gain insight into ideas that will underpin effective embedding of entrepreneurship education in the REM curriculum and to capture such ideas in the research instrument. The expert opinions in this section provide insightful ideas in the

construction of the research instruments and contributes to achieving the objective one (Obj.1) of the research.

The key items in the tournament are summarized in the table below.

Table 5.1: Issues in embedding entrepreneurship

When we talk about embedding entrepreneurship, what does it mean?

Embedding in the context of this study refers to embedding entrepreneurship skills course by course that is, introducing the teaching of the skills within each core REM course/ module.

Pathways to embedding entrepreneurship in real estate management education

What is the nature of this embedding?

We are looking at an approach to embedding entrepreneurship in terms of which the overall learning experiences of students i.e. the knowledge, skills and attributes of entrepreneurship are well developed in the context of the REM discipline.

What approach should it take?

The embedding envisaged by this research can best be achieved by mixed approach whereby in addition to generic course served by the Centre for Entrepreneurship education, entrepreneurship skills and attributes are reinforced in the teaching of the respective core REM courses.

How to embed entrepreneurship in each course: The details of the "how" is within the scope of this research and will be discussed dialectically.

Teaching approaches:

We are looking at a situation where the top-down generic course taught is emphasized in the REM departmental courses so that students will understand how to apply the skills in solving REM problems in the society. The generic entrepreneurship course helps students to develop general awareness about entrepreneurship, embedding the teaching of the skills in the core REM courses enable students to develop entrepreneurial thinking/mindset in the context of the REM discipline.

How to teach entrepreneurially

The focus on choice of teaching method should be on the end users, with the emphasis on how to teach each core REM course in such a way that students are made to realize that what they learn is meant for solving societal problem.

Are the REM lecturers doing this in the way they teach? We need to ask the lecturers what they are actually doing through a survey to elicit from the survey whether or not the lecturers are teaching the entrepreneurial skills in their respective courses.

Approaches and corresponding challenges to embedding entrepreneurship

In asking questions about approaches to teaching entrepreneurship and the corresponding challenges, provide inventory of the approaches teased out from the literature and the focus group debate to elicit information about the approaches presently in use in the universities.

Possible survey questions for achieving objective 1:

i. How do you teach the core module/course you selected? Do you teach this course in such a way that it imparts entrepreneurial skills?

ii. In teaching the course what processes do you think that a student needs to think through in order to practice what he learns entrepreneurially?

iii. In the teaching of your chosen REM course, are students made to see the link between the principles and practice? In other words, are they taught in such a way that they are able to relate the principles in that course to the needs of the society and solve problems?

iv. What is the nature of these REM problems that need to be identified and solved?

v. What basic skills have you given student that show their ability to solve the problems entrepreneurially, i.e. being able to identify the problems, gather the resources/data for solving the problem and be able to solve these practical problems in the society.

vi. Is your teaching able to reinforce the skills learned in the generic course in a way that enables the learner to solve REM problems? Nature of REM problems are different, will a graduate be able to identify such problems entrepreneurially.

vii. What skills have you taught the students to enable them solve problems entrepreneurially.

Typical Questions on approaches and corresponding challenges:

i. What innovations would you suggest about entrepreneurship education for REM students?

ii. Who should teach entrepreneurship to REM students? Expand the list with more options.

iii. To elicit information about methods of teaching entrepreneurship, make an inventory of possible methods, likert scale the options and ask the lecturers to tick.

iv. Content: What should be taught? Prepare an inventory list and likert scale as in (iii) above.

Sources of data for achieving Obj.1: From the survey of the REM lecturers, focus group expert debate and the literature review.

Heading 3: Issues in REM education

Objective 2: To explore some issues in REM education such as the traditional curriculum (current LTA strategies) conceptions of learning and learning outcomes in order to examine possible gaps in learning, which if addressed in a new curriculum would improve the quality of graduates

Objective 2 of the research seeks to test the effectiveness of REM education comprising the curriculum, the teaching, and the standards in order to identify possible gaps.

The objective of the focus group debate in this section is to identify the skills-sets which effective REM education should provide in the light of the stipulated standards and the outcomes which graduates of REM education are expected to demonstrate on graduation from the Nigerian universities. This forms the basis for identification of the gaps in the standards for REM education and in the current LTA practices in the universities. The experts' opinion in this section contributes insightful ideas for drawing up the inventory of skillsets/graduate outcomes in the research instrument to enable an understanding of the lecturers' LTA practices.

The key items in the tournament are summarized in the table focus group debate (FGD) 2 below.

Table 5.2: Issues in REM education

2a: Identification of skillset/graduate outcomes from effective REM education

In the opinion of the focus group experts:

- The HEIs in Nigeria do not seem to know what the graduate outcomes are supposed to be.
- The professional standards for REM practice also do not have any standard that documents the graduate outcomes or skillsets which graduates of REM from Nigerian HEIs are expected to demonstrate.
- We will then rely on the standards for REM education comprising NUC MAS 1997 and the BMAS 2007 standards to tease out the skills-sets/graduate outcomes.
- The skillset from those documents will then be regarded as the graduate outcomes which effective REM education should provide.
- Experience shows that lecturers reflect most of the learning outcomes in their teaching but they do not test the demonstration of the skills in the learning assessment.
- In other words, lecturers teach the content, theory and principles of a course without testing the demonstration of the skills for example by asking students to carry out projects and practical assignments as means of testing students' demonstration of such learning in practical terms to solve real life problems.

Action plan for this section:

Draw up in a questionnaire, an inventory of the skillsets/graduate outcomes which effective REM education should provide in the light of the stipulated standards and ask the lecturers to tick what they do. This will enable an insight into the lecturers' LTA practices and also serve to triangulate the opinion of the focus group experts.

2b: Identification of possible gaps

Nature of gaps

In the opinion of the focus group experts the nature of gaps are viewed from two perspectives namely:

1. The extent to which the standards are implemented in such a way that the students are able to demonstrate the skill-sets? If not then there is a gap.
2. To what extent are the higher institutions able to deliver effective REM education?

Viewed from the above perspectives, the gaps are in the nature of:

- Gaps between the ideal curriculum and the NUC standards in terms of contents. For the purpose of this study the NUC BMAS 2007 is regarded as the ideal.
- Gaps between the NUC standards and the university curricula that implement the standards.

- Gaps in the interpretation and delivery of the REM curricula.

:

Manifestation of the gaps:

The gaps manifest in the NUC standards and implementation of the standards by the universities as follows:

- The new NUC BMAS 2007 requires the teaching of entrepreneurship in all the disciplines in the Nigerian HEIs. This provision was not in the traditional minimum academic standards (MAS) curriculum of 1997 being implemented in most Nigerian universities.
- Although most university curricula that implement MAS1997 tend to be better than the NUC MAS curriculum, 1997, the gap manifests in the NUC BMAS 2007 which provides for teaching entrepreneurship skills and the university curricula that have not been reviewed for many years (about ten years) and do not have such provisions.
- Gaps in the lecturers' interpretation and Delivery of REM curriculum: The weakness in the teachers teaching skills also contributes to the gaps. Most of the REM lecturers are not trained teachers. The gap lies with the lecturers' interpretation of the curriculum and the fact that lecturers may not have the required skills to teach entrepreneurial curriculum.
- There is also a possible gap in the sense that the lecturers carry out assessment *of* learning and not assessment *for* learning.
- Students carry the gaps in REM education into the field of practice on graduation.

Notes:

The identification of the gaps in the standards and implementation are based on what is documented in the standards for REM education. The gaps are established through critical analysis of the NUC documents that embody the standards for REM education in Nigeria.

The full picture about the gaps between what is known as effective curriculum delivery and what obtains in the current LTA practices in the Nigerian HEIs is expected to emerge from analysis of the survey data from REM academics, students and practitioners.

The analysis of the questionnaire items helps to answer questions about- how effectively the institutions are delivering the ideal curriculum, if it is not effective then there is a gap. What is the nature of the gap? Where is the gap? Are the educators able to deliver effectively?

For instance, in the opinion of the focus group experts, the REM education is not effective because the people who are supposed to deliver the curriculum are not able to deliver effectively. In the current dispensation they are not able to deliver in a way that enables the graduates solve societal problems effectively.

2c: Measuring the gaps: The gaps are measured by the extent of the missing link

Gaps intended to be measured in this research are:

- Gaps in curriculum content - measure the gaps in curriculum by establishing the missing link between the content of the ideal/NUC BMAS curriculum and the university curricula that implements the standards.
- Gaps in the interpretation and delivery of the curriculum – by specifying the items in the skills-set/graduate outcomes that are not effectively delivered and which of the gaps made it difficult for lecturers to meet the baseline effective REM education.

Closing the gaps:

Finding the strategies that will help to close the gaps in REM education are the innovations this research is looking for.

Notes:

i. To measure the gaps, we need to go to documents analysis to identify the gaps in the curriculum.

ii. The skills-sets suggest the graduate outcomes which effective REM education should provide in the light of the standards.

iii. The innovations we are looking for are strategies that will enhance and deepen the knowledge and entrepreneurial skills of REM students.

iv. At this point we want to be able to classify the gaps to give us the inventory that can be tested through a survey using a Lickert scale.

v. The nature of the survey questions for this section should be a comprehensive inventory of the skills teased out from the documents analysis for lecturers to tick.

vi. Whatever they are not able to tick as the skills being taught represents a gap.

vii. The researcher then sits back to measure the gaps through a critical evaluation of the responses to tease out whether it is a gap in the curriculum content, delivery or in the interpretation, which of the gaps have made it difficult for lecturers to meet the baseline effective REM education etc.

2d: Summary of what to do in order to achieve objective 2

Summary of actions required to achieve Objective two:

1. Identify the skillsets/graduate outcomes
2. Establish the gaps
3. Classify/measure the gaps
4. Discuss innovations required to close the gaps or how to close the gaps.

Heading 4: Review of professional standards guiding REM practice in Nigeria

Objective 3: To review the professional standards guiding REM practice in Nigeria and survey practitioners' opinion about possible gaps in practice revealed by employee (young graduates) of real estate management.

Work in objective three involves a critical review of the professional standards for REM practice and then linked to entrepreneurial practice.

The objective of the focus group debate in this section is to offer a critique to show that the real content of what a graduate of REM should be able to do was not there in a rigorous way in any of the documented professional standards for REM practice. That being the case it was decided that the researcher should go through the NIESV documents that embody the professional standards and tease out the skills areas that relate to entrepreneurial competences. Whatever we are able to sift out from the documents will then be enriched with literature like GSA Ifediora's book (2011), test of professional competence, NIESV and MCPD presentations and other similar documents. The rationale for the critical analysis is to produce a global template that accommodates a coherent list of skills for the survey of REM practitioners. This forms the basis for linkage analysis to determine which elements in the professional competences are actually linked to entrepreneurial skills and attributes and for identifying the gaps. The experts argue that the aspect of such professional activities that reinforce entrepreneurial skills should happen within the curriculum while the students are still in the university so that the training can be continued in the employers' organization by the time they leave the university. This way there is a continuous exchange between what happens in the university and what happens in the field of practice on graduation from the university.

The summary of what to do to achieve objective 3 is presented in table 5.3 below

Table 5.3: Summary of actions required to achieve objective 3

Summary of what to do to achieve Objective three
1. Do a critical analysis of documents to filter out professional skills that are cogent to entrepreneurial learning/practice.
2. Make a comprehensive inventory of the skills and Likert scale the master list.
3. Ask the REM practitioners to rate their new employees on performance/how the employees are meeting those skills.
4. Ask REM practitioners why those professional skills and activities that reinforce entrepreneurship cannot happen within the curriculum while the students are still in the HEIs and to be continued in practice when they graduate.
5. Analyse the responses to find out what is lacking in the new graduates.

Heading 5: Critical evaluation of insights from Objectives 1-3 and discussion of the results

Objective 4: To critically evaluate the insights from 1-3 above in order to establish the links amongst entrepreneurship ideas, real estate management education and professional practice. This evaluation will examine how the gaps in learning relate to the gaps in practice and how innovative REM education will help to close he gaps,

Work in objective four involves bringing together of the critical insight realized from Objectives 1-3 in such a way that the key ideas that constitute the new knowledge will now be crystallized. The new knowledge will then be reflected in the new ideal curriculum that we are going to construct. The evaluation that happens in chapter 4 is like the synthesis of the work similar to the grand summation of the whole research work.

The object of the focus group debate in this section is to relate the entrepreneurial ideas (skills and attributes) covered in Objective one (1) to REM education and then linked to the standards that come from the critical analysis of the professional standards. The rationale for the debate is to crystalize the gaps in learning and practice of real estate management in Nigeria, how a particular gap in learning filters into gaps in professional practice and then figure out how to close the gaps. The novel ideas for closing the gaps would be reflected in the construction of the emergent, innovative, ideal curriculum. In effect, the object of the debate is in the sense in which having critically analyzed the issues in objectives 1-3 we may now ask, what is new, what is cogent to be taken into the new ideal curriculum and critically discuss the results.

The key results of the debate in this section are outlined in table FGD 4a below.

Table FGD 4a: Outline of the key result from the debate in section four

Key results from the debate
• Gaps in learning of REM in Nigerian universities
• Gaps in the professional practice
• Relating the gaps in learning and practice to show how a particular gap in learning filters into gaps in practice
• Novel ideas that must be reflected in an ideal curriculum to close the gaps.

The actions required to achieve objective four are summarized in the box below.

Table 5.4: Summary of actions required to achieve objective four

Summary of what to do to achieve Objective four
• Relate the identified theoretical gaps to professional practice. • Look at gaps in practice and relate it with how the students were taught i.e. Gaps in learning explored in Cox and Light 2005; the equivalent gap in practice that they portend; the manifestation of the gaps as we see the gaps manifesting are the three points we will play around with in the discourse. • Illustrate how to close the gaps by exemplification of the emergent ideal curriculum

Notes:

i. *The skills for REM practice are taught in the traditional curriculum but that our emphasis in this research is on teaching the skills entrepreneurially*
ii. *The name ideal curriculum is metaphoric in the sense that it seeks to achieve a curriculum that is so good and so innovative that it can compare with best practice curriculum like what happens in MIT.*
iii. *We are not looking at ideal curriculum in the sense of something so perfect that it becomes unattainable.*
iv. *Ideal curriculum in philosophical terms is 'emergent'. It emerges from the consolidated work, very critical, with deep analysis of data and information to give us the nuggets of ideas that are quite new and powerful enough to drive entrepreneurial training in REM in a spectacular way. That is why the ideal curriculum is ideal.*
v. *The research takes ideas for ideal curriculum from back ground knowledge, the literature review, the focus group expert debate on higher order skills and learning and the survey of REM academics, students and practitioners.*

Heading 6: Demonstration of innovative curriculum

Objective 5: To demonstrate the innovative curriculum using a core REM course as a case study e.g. property valuation and management.

Work in objective five involves a demonstration of the innovative curriculum for REM education, using a case study of property valuation. Property valuation is chosen as the case study for this research because Valuation is a core area of REM education and practice. It is the researcher's core area of competence in terms of education and practice, having obtained a Master's degree in property valuation and management, taught the course and practiced the profession for many years. It is also a core research domain for Godfrey (my second research supervisor) who is a professor of real estate management

and fellow of the NIESV. This presents opportunity for the research to gain from the strong input he brings to bear from his wealth of experiences in the REM education and practice in Nigeria. The Director of studies (Dr. Patrick) also has keen interest in the subject of valuation as prelude to investment analysis and decision making. With these considerations, property valuation course naturally surfaced as the best choice for the case study. The idea is that if we are able to demonstrate how to embed entrepreneurship in valuation, it can now be translated to other core REM courses and possibly copied over to other disciplines to make the curricula more entrepreneurial. The exchange amongst the focus group culminated in the emergence of valuation as the core REM course for the case study.

The actions required to achieve objective five are summarized in the table 5 below.

Table 5.5: Summary of actions required to achieve objective five

Summary of what to do to achieve Objective five

1. Do a small table showing the list of the core courses in REM.
2. Explain the meaning of core REM courses
3. For the Case study:

- List the valuation courses from year 1 to graduation and demonstrate the entrepreneurial curriculum for same as follows:
- Give details to show a matrix of what happens in ideal curriculum and interpose into REM curriculum
- Use valuation as case illustration of how to teach entrepreneurial skills and attributes in REM courses to concretize ideal learning, teaching, and assessment and how these will surface in the innovative REM curriculum.

4. Demonstrate the innovative REM curriculum

Heading 7: Philosophy of the PhD work

This must be emphasized in every chapter to surface the theoretical and practical problem we are solving. The puzzles are stated in the box below.

Box 1: Statement of the puzzles in this research

The theoretical puzzle:

This work is looking at curriculum innovations within a discipline that will enable the teaching and practice of the discipline to be entrepreneurial. It is a puzzle because while people pay lip service to entrepreneurship education and do it the top down way other people cannot consider how to embed it within the discipline.

The practical puzzle:

The practical puzzle of this study is that if we embed entrepreneurship properly within the REM discipline we are capacitating the graduates of REM discipline to be entrepreneurial. This study is useful to the society because every country in the world uses entrepreneurship education to develop its workforce to be wealth creators and the problem we have in Nigeria is that graduates whether employed or unemployed are not good wealth creators. This is so because the training that they received from HEIs did not prepare them for solving problems innovatively. This is actually impacting on wider socio economic development of the country. If we can get every discipline to develop this way then every single discipline is professional.

These two puzzles must surface clearly in every chapter. Summarize what is novel about the work and then end it in the future.

Heading 8: Sampling framework

The debate in this section centers on agreeing the sampling technique and sample selection for the survey and administration of the research instruments. The details are summarized in the following box.

Box 2: Outline of the sampling framework

1. Sampling technique
    - Cluster sampling – REM Lecturers, students and practitioners
2. Sample selection –
    - Probability sampling of universities that are relevant to this study considering its peculiar nature.
    - Universities selected are the ones of long standing in REM education and a few that have attempted some innovations
3. Respondents in the survey of lecturers and students
    - All the REM lecturers in the sampled universities
    - All the final year REM students in the sampled universities
4. Survey of REM practitioners
    - Select sample of REM firms in the cities with vibrant REM practice activities
    - Firms are selected randomly and principal officers are to give information about the practices of the young graduates in the firm

Heading 9: Data analysis techniques:

The research uses a multi-methodology that features:

- Qualitative technique
- Quantitative analysis
- Document analysis
- Critical linkage analysis
- Critical discussion of the results

Note: This intense scholarly debate forms part of the methodology because the views the experts provide triangulate the lecturers' opinion.

5.3 The Framework

In Chapter 4 we mapped the survey items to the research questions and objectives. Such preliminary evaluation also enables our easy understanding of the relevance of the items to achieving the research objectives (See Figure 4.1, in Chapter 4). For easy follow through in this chapter, we have recaptured the mapping matrix in this section as tables 5.6 and 5.7 below.

Table 5.6: Matrix of the relationship between questionnaire items and the research questions and objectives- survey of REM academics and students

Q. ITEMS	OBJ1	RQ1	OBJ2	RQ2	OB3	RQ3	OBJ4	RQ4	OBJ5
Section A									
1a			OA						
1b			OA			QA	OA	QA	
1c						QA		QA	OA
1d	OA	QA				QA		QA	
Section B									
1			**OA,OS**	**QA,QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA**
2	**OS**	**QA**	**OA,OS**	**QA,QS**	**OS**	**QA, QS**	**OA,OS**	**QA, QS**	**OA,OS**
3	**OA, OS**	**QA,QS**	**OA,OS**	**QS,QA**		**QA, QS**	**OA,OS**	**QA,QS**	**OA,OS**
4	**OA, OS**	**QA, QS**				**QA, QS**	**OA.OS**	**QA,QS**	**OA,OS**
5	**OA, OS**	**QA, QS**	**OS**			**QA**	**OA**	**QA,QS**	**OA**
6	**OS**	**QA,QS**	**OA,OS**			**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
7	**OA, OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**		
8	**OS**	**QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
9			**OA,OS**	**QS**		**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
10			**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	

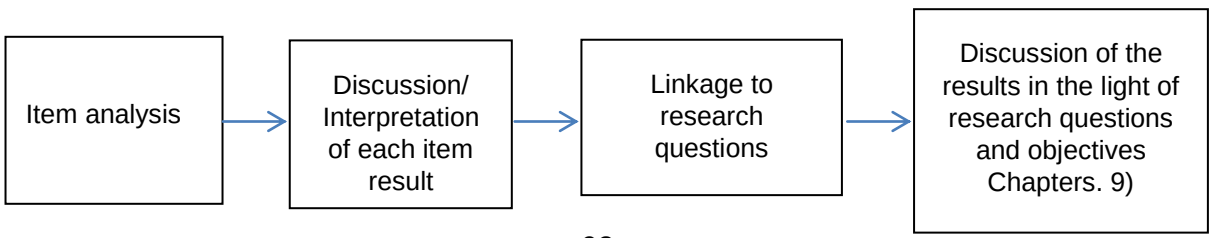
Table 5.7: Matrix of relationship between questionnaire items and the research questions and objectives- REM practitioners

Q. ITEMS	OBJ1	RQ1	OBJ2	RQ2	OBJ3	RQ3	OBJ4	RQ4	OBJ5	Result R
1										
2				QP	OP	QP	OP			
3				QP	OP	QP	OP			
4				QP	OP	QP	OP			
5a				QP	OP	QP	OP	QP	OP	
5b				QP	OP	QP	OP	QP	OP	
5c				QP	OP	QP	OP	QP	OP	
5d				QP	OP	QP	OP	QP	OP	
6		QP	OP	QP	OP	QP	OP	QP	OP	

SUMMARY OF ANALYSIS PROCEDURE

The summary of analysis procedure for the survey data involves four distinct but dependent stages presented in figure 5.8 below.

Figure 5.8: Procedure for the summary of data analysis



The first stage is the item analysis whereby the frequency counts of responses to each item in the questionnaire are summarized and presented in tables. The frequency tables are represented in charts as appropriate for easy visualization.

This is followed by interpreting each item result in terms of what the numbers mean statistically and exploring what they suggest for the study rationale, key constructs and scores. Thereafter, the results from the item analyses are systematically related to the research objectives item by item to show which of the items in the questionnaire are relevant to achieving each research objective, as in the above relationship matrices.

Finally, we discuss the results that emerge from the systematic linkage in the context of the entire work in order to have a clear basis for conclusions about the research objectives. In this work we discuss the results by their relationship with the research questions in chapters 9 of the thesis.

5.4 Descriptive statistics for the analysis of the nominal and ordinal survey items

This section describes how we analyse and interpret the data from the survey of REM academics, students and practitioners.

PROCEDURE FOR THE ANALYSIS OF THE NOMINAL SURVEY DATA

For the analysis of the nominal survey data, we obtain the frequency count of how many times each score occurs. This indicates the level of support for the response criteria. As part of the Exploratory Data Analysis for the research, we use the SPSS software (PASW, Version 18) to obtain the frequency counts, present the analysis in tables and charts, give a narrative of the analysis results, and interpret the results descriptively. The results are then interpreted in the context of the entire work by relating each item to the research questions in order to determine the key research findings.

In a nutshell, the analysis of the nominal data simply involves taking frequency counts and determining the strength of support for each item on the basis of the proportion of frequency of responses in support of the item (Descriptive analysis). It is only where there are small differences in the proportions of those who support and those who do not support that we undertake a statistical test of differences in proportion to understand how significant the differences in opinions are.

PROCEDURE FOR THE ANALYSIS OF ORDINAL SURVEY DATA

In the analysis of ordinal scale data, we obtain the frequency distributions of support for each item and then measure the degree and significance of support for each item. In order to achieve this, we use overall average opinion index (the arithmetic mean) of the frequency distributions and compare it with the neutral index associated with the middlemost rank on the corresponding Likert scale for a questionnaire item.

To illustrate this procedure, suppose that an item is on a 5-point Likert scale where 1 is 'Strongly disagree'; 2 is 'Disagree'; 3 is 'Neutral'; 4 is 'Agree' and 5 is 'Strongly agree'. In order to determine the level of support for each item, we take 3 (the middle number) as the neutral index and compare it with the overall average opinion of responses for the item across the distribution. The strength of support for the item depends on the relationship which the average opinion index (m) has with the neutral number which is 3 in a 5-point Likert scale sample distribution or 4 in a 7-point Likert scale sample distribution.

We use the arithmetic mean of the observed distribution of responses to an item to test because it measures the strength of support based on the average frequency scores of the sample distribution across the entire level of responses. This gives a more robust result than making a decision based on simple frequency count. For instance, if the average opinion index (mean) is 4.20 then the figure 4.20 is compared with the neutral score 3.0, as a basis for deciding the strength of support.

Interpretation of the scores

The general strength of opinion is described in terms of:

'No support' or 'extremely weak' support for mean scores less than 3;

'Weak Support' for Mean Index > 3.0, but less than 4.0; and

'Strong Support' for mean index > 4.0

In the above example, the observed average opinion index, mean = 4.20 indicates 'strong support' for the variable.

We carried out a test of significance of the difference in opinion between the neutral score (3.0) and the actual score for each questionnaire item. That is, how extreme this difference is to warrant accepting or rejecting the null hypothesis that it can result from a distribution in which the respondents presume the two scores to be part of the same distribution, as opposed to an alternative hypothesis in which the larger or smaller score (than 3.0) is part of a different distribution from that which describes the neutral score.

As mentioned earlier, the data were coded into SPSS (IBM, PASW, Version 18) for statistical analysis. Please see Appendix 1, 2, and 3 for the list of variable names, description and statistical tests for the REM academics, students and practitioners, respectively.

Formal statement of the hypotheses and t-test statistics for the tests of significance

The case of difference in proportions:

Let p_1 and p_2 denote the proportions of two attributes in the respondents' scores based on n_1 and n_2 responses. Then we test the null hypothesis $H_0 : p_1 = p_2$ of equality in the proportions against the alternative hypothesis $H_1 : p_1 \neq p_2$ that they using the t-statistic

$$t = \frac{p_1 - p_2}{\sqrt{p_1(1-p_1)/n_1 + p_2(1-p_2)/n_2}} \qquad (5.1)$$

on $n_1 + n_2 - 2$ degrees of freedom. Here p_1 and p_2 are sample values of p_1 and p_2.

For the case of comparing a mean score $\bar{x}$ against a neutral score μ, we test the hypothesis $H_0 : \bar{x} = \mu$ of no difference against the alternative hypothesis that they are different using the t (or approximate z-score when the sample sizes are large) test

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} \qquad (5.2)$$

where *s* is the standard deviation of the frequency distribution of scores from which the mean score was obtained and *n* is the total frequency (effective sample size). The results of these tests are obtained using SPSS and summarised in Appendices 1, 2, and 3, to this thesis, as overall arithmetic mean index and their significance probabilities (p-values), from which we draw inferences about the strength of support and how significant the differences in opinions are.

The logic of the tests of significance using p-values

The p-value is the probability of obtaining a value equal to or more extreme (smaller or larger) than an observed value of the test statistic. We reiterate the fact that there are two test statistics used overall in the significance testing for which p-values are obtained – test

of difference in proportions for the nominal data on some questionnaire items and test of difference in means for the ordinal data on Likert scales for other items on the questionnaire.

To make the required judgment of significant difference in proportions or means, the p-value is compared to the chosen significance level for the test (5% in this case). If the p-value is greater than 5%, then the observed difference is regarded as not too extreme for us to reject the null hypotheses of equality between either the two proportions under comparison in the test of proportions or between the average opinion index on an item and the neutral item in the test of difference in means. Otherwise, if the p-value is smaller than 5%, then the observed difference has a less than 5% of occurring by chance given that the scores under comparison belong to the same (null) distribution. Hence, it is supposed that the difference is significant so that we have a strong basis to reject the null hypothesis and accept the alternative hypothesis which states that the scores really differ and belong to different distributions.

In effect, we are interested in knowing whether the *p*-value is greater than or less than 0.05. If the p-value value $p > 0.05$, we conclude that there is no significant difference or support for the item under reference. Otherwise, for $p < 0.05$, the difference is significant. The smaller the *p*-value is, the more significant the difference is and hence the stronger the support for the item under consideration. Hence, the following degrees of significance are used in interpreting the results.

If $p < 0.05$, the difference in opinion of support is significant

If $p < 0.01$, the difference in opinion is very significant

If P-value < 0.001, then the difference in opinion is very highly significant.

INTERPRETATION OF THESE RESULTS IN LIGHT OF THE RESEARCH OBJECTIVES

We gave a narrative of what the figures mean in statistical terms and what the results mean for the various research objectives the items are linked to. We further explore the result by looking at the implication of the result of the item analysis for the overall aim of the research i.e. in terms of what each item contributes to achieving the overall research aim and objectives such as the overall improvement of entrepreneurship education in Nigeria, providing opportunity for HEIs in Nigeria to understand what entrepreneurship education entails and understanding how to make the various disciplines entrepreneurial through innovations in REM curriculum.

Items that relate to more than one objective are linked to where they have more bearing and discussed in that context. In discussing the contributions of the items to the overall result we

focused only on the items whose result has significant (strong) bearing on the achievement of research objectives.

The next section shows presentation of the analyses of the questionnaire items from the survey of the REM academics, students and practitioners starting with the analysis of the survey of REM academics.

5.5 Summary and conclusion

This chapter summarised the overall philosophy and framework for constructing the research questionnaires and analysing the resulting data. The overall philosophy flowed from a transcript of the expert debate between the researcher and supervisors which is presented in Appendix 5 of the thesis. This debate is essentially a focus group work which constitutes a key methodology for the research, but is considered more appropriate to be presented in this chapter in order to directly inform the substantive data analysis in Chapters 6-8.

The key elements of the philosophy considered include: embedding entrepreneurship in REM curricula; issues in higher education; nature of gaps in learning; manifestation of the gaps in REM education and curricula; review of professional standards guiding REM education in Nigeria; demonstrating innovative REM curricula in a core REM course for example Property Valuation; and the theoretical versus practical puzzles explored in the research.

The data analysis framework include ideas on how to describe and analyse nominal and ordinal scale data from the questionnaires, and the appropriate test statistics to be used in confirming significant items in the respondents' responses to the questionnaires.

These ideas were framed around the methodological links among items, objectives and research questions which were earlier developed in Chapter 4 of the thesis.

CHAPTER 6: ANALYSIS OF SURVEY DATA FOR REM ACADEMICS

6.1 Introduction

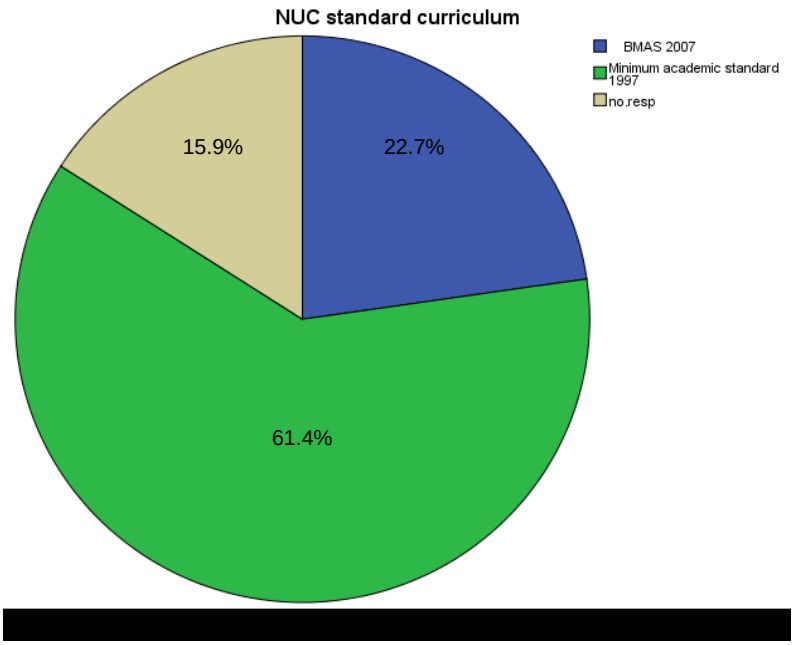
This section starts with the descriptive analyses of the biographical details and the general background sections of the questionnaire in the REM academics' survey which covers questionnaire Items (1a-c). This is followed by the analysis of the main questionnaire items comprising items 1 to 10 in the main section of the research questionnaire. For ease of identification and reference, the background items are numbered 1(a-d) in the research data collection instrument (Appendix 4A) and represented by corresponding coding variables in the data analysis instrument (Appendix 1). The items in the main section of the data collection instruments are treated likewise and numbered 1-10 in Appendix 4A and represented by corresponding coding variables in Data Analysis instrument (Appendix 1).

6.2 Analysis of the NUC Benchmark standard being implemented by REM programs – bmstd (Item 1a: Appendices 4A & 5B)

Lecturers were asked to indicate the NUC Academic standard that is being implemented by the curriculum currently in use for REM programs in their university. The rationale for asking this question is to understand the NUC benchmark standards currently implemented by the REM university programs. As indicated in table 5.6 above, this item contributes to achieving the Objective 2 of this research: 'To explore issues in REM education such as the traditional curriculum…' with a view to understanding any required improvement.

The result is summarized in the table of frequencies in table 6.1 (Appendix 6).

Figure 6.1 Pie chart showing NUC standards implemented by the university programs



The foregoing analysis shows that greater percent of the REM university programs (61.7%) are still implementing the NUC Minimum Academic Standards (MAS), 1997 while only 22.7% have implemented the new NUC benchmark (BMAS) 2007. 15.9% did not respond.

It then means that greater number of the REM programs have not implemented the 2007 NUC benchmark academic standards which is an improvement over the minimum academic standards of 1997. For instance, the benchmark academic standard (BMAS, 2007) requires entrepreneurship and ICT education for all university students. This requirement is not in the MAS, 1997 which means that the universities that still use the old academic standards may not see the need for curriculum innovation to integrate entrepreneurship education. The fact that substantial number of REM programmes has not implemented the new benchmark shows that they have not yet made much curriculum improvements that will lead the universities closer to achieving better graduate outcomes.

It also reinforces the importance of this research which, for the first time in the opinion and awareness of the researcher, measures the entrepreneurial learning gap in REM education of Nigerian students. The gap manifest, as the research results will show, in different ways, including teaching skills deficits for imparting entrepreneurial thinking on the part of REM lecturers and curriculum deficits for staging entrepreneurial learning, teaching and assessment activities effectively.

Moreover, we know from the focus group debates that even those REM curricula that have progressed to the BMAS 2007 are still far from being ideal in terms of curriculum delivery. Hence, all the REM curricula as currently practiced in Nigerian universities require further pedagogic innovations. The fact that the universities operating with the MAS 1997 may not even see the need for innovating the curricula in order to produce entrepreneurial graduates implies that the results of this research should be actively disseminated in Nigeria in order to spur a change in curriculum practices in line with the expectations of the BMAS 2007.

6.3 REM Lecturers' qualifications – aqual (Item 1b, Appendix 1&4A)

REM lecturers were asked to indicate their respective academic, professional and teaching qualifications. The purpose of asking the question is to understand the lecturers' background qualifications as a prelude to understanding their LTA practices and their capacity to deliver a new curriculum with pedagogical innovations (objective 2, RQ4). It is also expected to contribute insights on how the gaps in teaching of REM relates to gaps revealed in practice by young REM graduates as required by Obj.4 and RQ.3.

The results of the analysis for academic, professional and teaching qualification are presented with the variable code in the table 6.2 (Appendix 6) and figure 6.3 that follow.

Academic qualifications –aqual (Item1b, Appendix 4A)

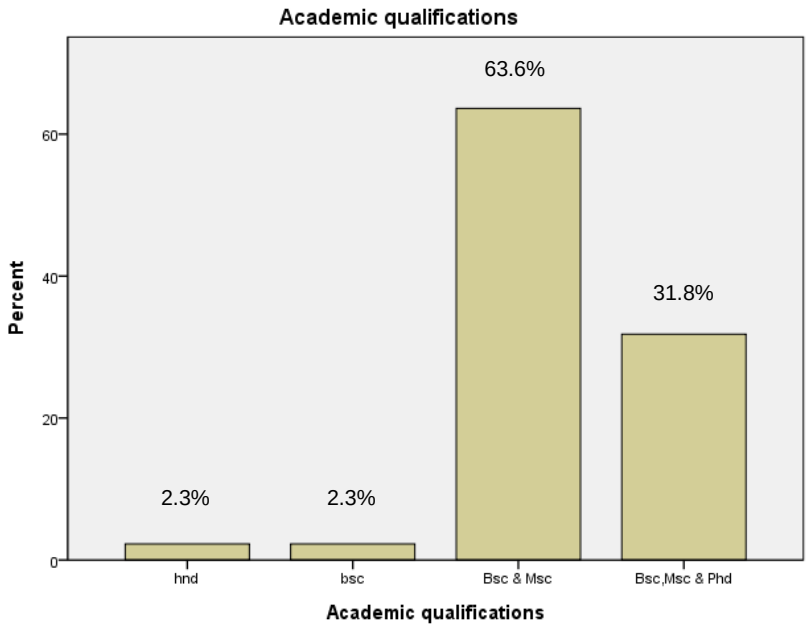


Figure 6.3 Chart representing REM lecturers' academic qualifications

The result shows that 95.4% of the REM lecturers have a minimum of master's degree. The 95.4% is made up of 63.6% who combine a bachelor's with a master's qualification, and 31.8% that combine bachelors, Master's and a PhD. Only 2.3% possess just a B.Sc. While another 2.3% has only a Higher National Diploma (HND).

It then means that REM programs in Nigeria universities have lecturers that are well qualified in the subject matter of the discipline. The basic qualification required to lecture in the REM discipline is a good Bachelor's degree in estate management and a Master's degree in same or related discipline. Holders of good bachelor's degree only can still be part of academic staff as graduate assistants.

Professional qualifications - pqual (Item 1c; Appendix 4A)

Table 6.3 (Appendix 6) and figure 6.3 present the frequency counts and corresponding graphs for the REM lecturers' professional qualifications.

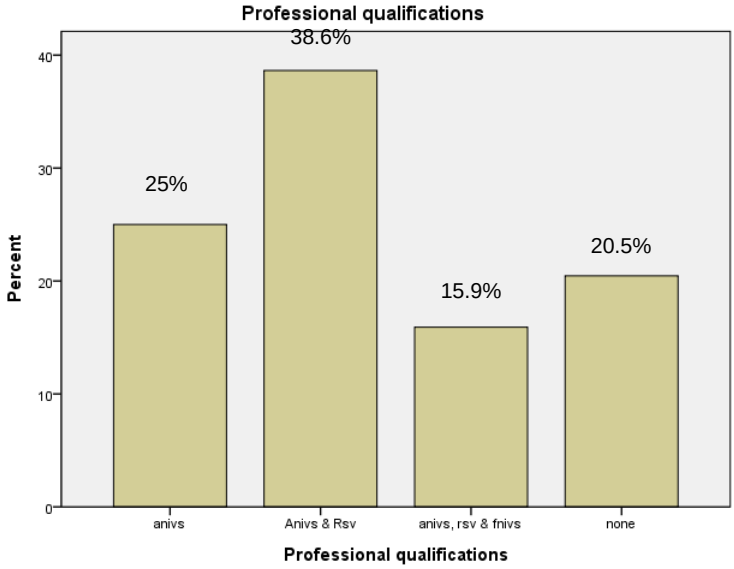


Figure 6.3 Bar chart presenting lecturers' professional qualifications

The result shows that cumulatively 79.5% of the REM lecturers possess professional qualifications of various grades ranging from associates of the Nigerian Institution of Estate Surveyors and Valuers ANIVS to fellow of the Institution FNIVS. The regulatory authorities for REM education in Nigeria i.e. the NUC and the ESVARBON require that a lecturer should have professional qualifications in addition to academic qualifications. For instance, it is a mandatory requirement from ESVARBON that a candidate for the headship of an REM program must have professional qualification. The NUC does not have such mandatory requirement but the fact that professional qualification is an important consideration for staff promotion and program accreditation makes it a desirable.

The implication of the result is that REM lecturers are subject matter experts well equipped with technical knowledge of the subject matter and professional knowledge to reinforce professional skills in the teaching of core REM course. If equipped with similar high level of teaching qualifications, the REM lecturers would be in a sound position to use innovative LTA strategies in teaching a modern curriculum.

The analysis of the lecturers' teaching qualifications is presented in the next segment.

REM lecturers' teaching qualifications - tqual (Item 1d; Appendix 1 &4A)

The analysis of the lecturers' teaching qualifications is presented in table 6.4 Appendix 6) and figure 6.4 below.

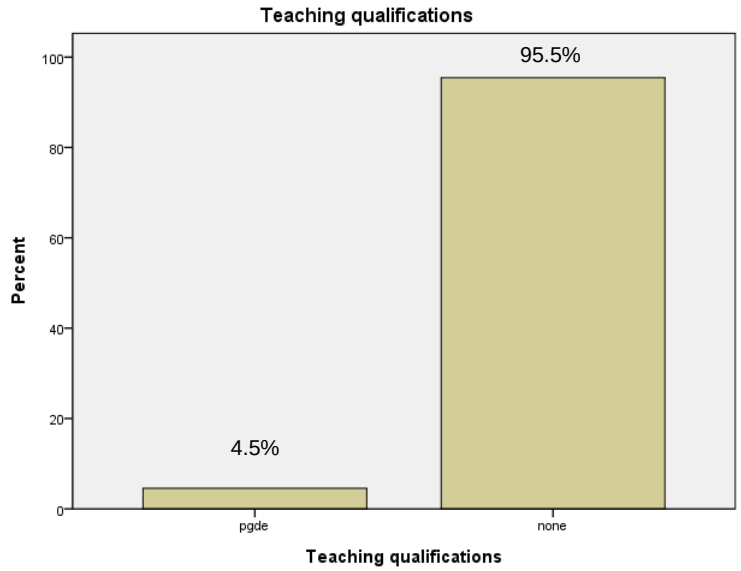


Figure 6.4 Chart showing REM lecturers' teaching qualifications

The above analysis shows that only 4.5% of the lecturers have a postgraduate diploma in education while far too many lecturers (95.5%) have no teaching qualification, that is, no basic teacher training qualification, National Certificate in Education or postgraduate diploma.

This is not surprising because REM is a professional discipline and traditionally there is no regulatory requirement (either from NUC or ESVARBON) for a prospective academic in REM to have teaching qualification. It was only recently that the Federal Ministry of Education came up with a circular requiring university lecturers, irrespective of their disciplines, to acquire teaching qualifications in addition to their academic (and professional in relevant disciplines) qualifications. This requirement has not been enforced.

The requirement, though unenforced for now, again highlights the relevance of this research not only for REM education, but also all other disciplines, since it is a fact that the above characteristics of REM lecturers apply even more forcefully to other disciplines, especially single-honours (non-professional) disciplines. This is because in designing discipline-focused short PGDE-type courses aimed at capacitating Nigerian academics to become trained and effective teachers, the range of curriculum deficits related to the entrepreneurial gap posited in this thesis will inform better course designs which will close the identified

learning gaps. It is for this reason that a case study of how the curriculum innovations could be instituted in a core REM course (also adaptable to the other core courses in REM or other disciplines) is provided in Chapter 10 of this thesis.

Furthermore, we ask the question: why do they need teaching qualification? There is a need for lecturers to have teaching qualifications in order to have a mastery of LTA practices required to deliver the type of innovative curricula anticipated in the BMAS 2007. The BMAS 2007, as argued above, requires further pedagogic innovations in order to effectively produce entrepreneurial graduates from all the disciplines. For instance, with the high level of academic and professional qualification already possessed by lecturers, the teaching qualification provides the fortification for the REM lecturers to understand the intricacies of an innovative curriculum, its design process, and its delivery in such a way as to meet graduate learning outcomes desired in a modern curriculum.

In summary, the foregoing analysis of qualifications of REM lecturers shows that most of the REM lecturers are academically and professionally well qualified. This makes them subject matter experts with technical knowledge and professional practice skills required to teach students in such a way that they can easily connect university knowledge with professional practice. However, their lack of teaching qualification means that they do not have the capacity to implement innovative LTA strategies required in a modern curriculum expected to produce entrepreneurial graduates for example the BMAS 2007. In effect, as argued above, the lecturers being subject matter experts alone may even be part of the causes of learning gaps explored in Cox & light (2005) and discussed in the context of entrepreneurial education by Ezepue (2007). These learning gaps are therefore examined in more detail in Chapter 10 of this thesis.

6.4 Core REM courses taught by lecturers - coret (Item 1c; Appendix 4A)

Lecturers were asked to list the core real estate management courses that they teach. The questions were asked to enable a confirmation of core real estate management courses actually being taught in the traditional REM curriculum. The result will also ensure that the choice of a case demonstration of innovative curriculum is a crucial core course.

The result shows that the top five core courses are Valuation, Land Economics, Property Management, Feasibility and Viability Appraisal, Property Development and Management. It then means that case study course must be chosen from the above five core courses.

6.5 Course category of entrepreneurship education in the universities – entcat (Item 1d; Appendix 4A)

Respondents were asked to indicate the course category of entrepreneurship education in real estate management discipline. The purpose of the question is to gain an understanding of the importance attached to entrepreneurship education in the REM curriculum. This will also inform possible curriculum innovations expected to result from this research. For example, as mapped in the methodological relationship matrices in Tables 5.6 and 5.7, the results on this item contribute insights for achieving objective 1, RQ1 on how best to embed entrepreneurship ideas in REM curriculum, RQ2 and RQ3 on how to address the gaps and improve the REM curriculum. They also offer insight towards achieving objective 4, RQ4 on the nature of the curriculum. The results are presented in Table 6.5 (Appendix 6) and Figure 6.5 below.

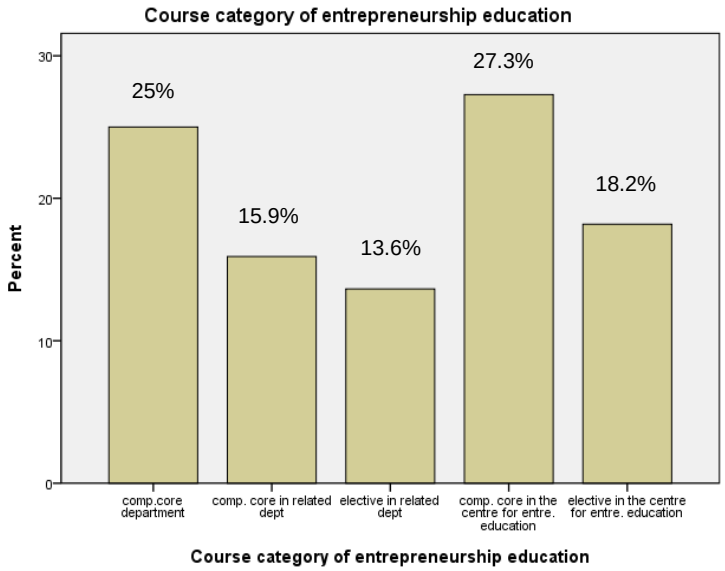


Figure 6.5 Chart presenting course categories where entrepreneurship education is located

Looking at the above analysis, 25% of the respondents indicate that entrepreneurship is a core course taught within the department, 27.3% indicate that it is a core course located in the centre for entrepreneurship education and taught by the centre, 15.9% indicate that it is a core course taught in related departments. The remaining 14% indicate that entrepreneurship is an elective course either taught by the centre for entrepreneurship education (8%) or a related department (6%).

Overall, the result shows that in REM discipline, entrepreneurship education is grouped in the core course category (68.2%) taught either in house at the department (25%) or by the centre for entrepreneurship education (27.3%) or by related discipline (15.9%).

The results mean that 68% (30 out of 44 respondents) indicate that entrepreneurship is a compulsory course irrespective of where it is taught in their universities. Hence, entrepreneurship is given a high level of importance but as revealed by the analyses in this chapter, the curriculum delivery is not adequate for training REM graduates on how to be entrepreneurial within the context of the discipline.

We know from the expert group debate outlined in Appendix 5 and summarised in Chapter 5 that entrepreneurship education is generally controlled and taught by the university centres for entrepreneurship education for all disciplines or in some departments by lecturers trained by the centres. With this kind of arrangement, entrepreneurship education is capable of creating awareness and imparting generic business start-up skills, but may not provide students with skills for being entrepreneurial within REM practice.

6.6 Analysis of Ordinal survey data

ITEM ANALYSIS OF THE SURVEY DATA: REM ACADEMICS

This section presents the analysis of the ordinal survey data from the survey of the REM academics and students. The section covers the analysis of the questionnaire items, (Items 1-10) from the survey of REM academics. For ease of identification and reference, the presentation of the data uses item number in the survey data collection instrument (Appendix 4A) and the corresponding variable codes for the items as contained in the Survey Data Analysis instrument (Appendix 1).

Item 1: Conceptions of learning by REM academics (Appendix 4A)

Lecturers were asked to score a range of learning conceptions on a 5-point Likert scale - 'strongly agree', 'agree', 'neutral', 'disagree',' strongly disagree' - to indicate their level of support with the learning ideas.

The rationale for the question is to gain insight into the REM lecturers' views about learning in order to know whether their conceptions in any way contributes to learning gaps in REM education. This item is also important because conceptions of learning impact on the learning orientations and reflects in the overall learning, teaching and assessment strategies adopted by lecturers. Understanding the lecturers' conceptions of learning will give insight into the REM curriculum issues that need to be addressed in order to improve the quality of REM graduates.

Following the relationship matrices in Tables 5.6 and 5.7, the **item is linked** to Obj.2, RQ1 on exploration of the traditional curriculum to examine possible gaps and how entrepreneurial competences inform LTA strategies in REM programme. It is also linked to RQ3 - improvements in the curriculum required to close identified gaps.

Table 6.6: REM academic conceptions of learning, (concl. Appendix 1)

Variable Description	Statistics/Mean	Interpretation (using mean score ranges defined above)	Significance (*p*-Value)	Inference/decision using size of p-values
Learning is information about theory and principles of the subject matter of study	4.20	Strong Support	p=0.000; <0.001	Result is very highly significant
Learning is memorizing and reproduction of information	2.41	Extremely Weak	P = 0.001 < 0.01	Result is highly significant
Learning is acquisition and application of facts	4.61	Strong Support	P = 0.000 < 0.001	Result is very highly significant
Learning is synthesis and interpretation of ideas	3.77	Weak Support	P = 0.000 < 0.001	Result is very highly significant
Learning as gaining understanding	3.61	Weak Support	P = 0.000; <0.001	Result is very highly significant
Learning as stimulation of multiple senses	4.00	Strong Support	P = 0.000 < 0.001	Result is very highly significant

Table 6.6, shows the details of the variable descriptions and the statistical test results (average mean index and the p-values) for the item. Six variables were tested under this item out of which learning as ‘memorizing, storing and reproducing information' with a mean = 2.41 has the least support. Although the test statistic at p = 0.001<0.01 is highly significant, the significance strongly supports the conclusion of very weak respondents’ opinion about this understanding of the goal of learning. Hence, it indicates REM lecturers' strong lack of support for rote learning. One may argue that ironically whilst this is the case, the current approaches to REM curriculum delivery appear to examine students mainly on their ability to recall the lecturers’ notes, which is not materially different from predisposing them towards rote, instead of deeper, learning, as required by entrepreneurial learning.

- The average opinion index of responses for all the other 5 variables is above the neutral score of 3 (on the 5-point Likert scale):
- Learning as ‘acquisition and application of facts' (mean = 4.61; p = 0.000 < 0.001);
- 'Learning as gaining information about theory and principles of the subject matter (mean = 4.20, p = 0.000 < 0.001)'; and
- 'Learning as stimulation of multiple senses (mean = 4.00, p = 0.000 < 0.001)' were in the top range. These not only indicate strong support for the variables but difference in strengths of support compared to the neutral score that is very highly significant. The other two factors:
- 'Learning as synthesis and interpretation of reality in a different way (mean = 3.77; p= 000 < 0.001)' and

- 'Learning as gaining understanding and abstracting meaning (mean=3.61; p= .000; <0.001)' also show evidence of significant difference in the strength of support.

Interpretation:

The results suggest that REM lecturers view learning from the broad based perspective of emphasizing the technical knowledge of the subject matter and application of such knowledge in solving societal problems. This finding indicates that lecturers' conceptions of learning broadly support entrepreneurial tendencies, meaning that the teaching of entrepreneurial skills can be effectively embedded in the REM courses, if the right entrepreneurial curriculum is enunciated in REM programmes.

It is noteworthy that of the above 5 variables, the last 3 have smaller scores than the first 2, and these 3 variables imply an understanding of the goals of education that is more radical that the traditional views currently delivered in the MAS/BMAS-based REM curricula in Nigerian universities. This is because in the lecturers' opinions learning by acquisition and application of facts is more clearly understood as an educational goal than, say, learning as synthesis and understanding of reality in a different way, which is a more elastic goal that would seem to accommodate the kind of creative and open-ended learning that entrepreneurial education epitomizes.

Similarly, the last variable on learning as gaining understanding and abstracting meaning reinforces entrepreneurial learning which requires graduates to stretch their understanding of REM concepts to novel and challenging areas of practice in order to deliver niche values to their clients. These arguments, therefore, seem to uncover some intrinsic *entrepreneurial gap in understanding* on the part of REM lecturers which requires effective closure (through perhaps training) in order to support their effective deepening of curriculum practices up to the levels needed to also effectively close the *entrepreneurial learning gaps* which this thesis explores.

In sum, there is no serious conceptual difficulties to embedding entrepreneurial learning in REM emanating from the lecturers' (mis)conceptions of learning, since they broadly conceptualize learning from perspectives which, if properly implemented, lead to effective learning. However, there is an intrinsic bias in these conceptions towards traditional understanding of learning as acquisition and application of [the existing body of] knowledge, which requires to be balanced with more nuanced understanding of learning as innovative (out-of-the-box) use of knowledge (entrepreneurially). This mode of learning requires syntheses of several strands of ideas in practice for example getting students to holistically deploy related knowledge in land economics, property valuation, and investment valuation,

if need be, in handling difficult property valuations with sparse price history or market information.

Item 2: Teaching methods used by REM lecturers (Appendix 4A)

This item probes lecturers' methods of teaching in the traditional curriculum with a view to identifying any gaps. This will also inform an understanding of LTA innovations required to close the gaps and improve the quality of graduates.

Again using the methodological maps, the item relates to the exploration of issues in the traditional curriculum, examination of gaps in learning and understanding of how entrepreneurial competences inform LTA strategies in REM (Obj.2; RQ.1). It also contributes insight to understanding how the gaps in teaching relate to gaps in practice, and the curriculum improvements required to close the gaps (Obj.4; RQ.3). The results are shown in table 6.7 below.

Table 6.7: Teaching methods (tm…, Appendix 1&4A)

Variable Description	Statistics/Mean	Interpretation	Significance (P-Value)	Inference/decision
Lecture method	4.18	Strong Support	P = 0.000 < 0.001	Result is very highly significant
Problem based method	3.77	Weak Support	P = 0.000 < 0.001	Result is very highly significant
Field trips and site visits	3.05	Weak Support	P = 0.736 > 0.05	Result is highly insignificant
Seminars and presentations	3.00	Weak Support	P = 1.00 > 0.05	Result is highly insignificant
Use of transactional objects	2.00	No Support	P = 0.000 < 0.001	Result is very highly significant
Guest entrepreneurs with REM practice experience	2.43	No Support	P = 0.000 < 0.001	Result is very highly significant
Role playing and stimulation	2.75	No Support	P = 0.279 > 0.05	Result is highly insignificant
Reports, term papers and essay writing	4.14	Strong Support	P = 0.000 < 0.001	Result is very highly significant
Student self-selected tasks and timely reports	3.34	Weak Support	P = 0.087 > 0.05	Result is insignificant
Student paired or teamwork	3.80	Weak	P = 0.000 < 0.001	Result is very highly significant
Timely and relevant feedback from students teams	3.52	Weak	P = 0.000 < 0.001	Result is highly significant

Eleven (11) variables were tested under this item and analysed using the test statistics for the ordinal data as already described in chapter 5. The result shows evidence of strong support with difference in opinion that is highly significant for *lecture method* (mean= 4.18; p = 0.000 < 0 .001) and *Engaging students in assignments that involve reports, essays, term papers/dissertation* (mean = 4.14; p = 0.000 < 0.001).

The analysis shows weak support for *students working in teams* (mean = 3.8) and problem based method (mean = 3.77). *Field trips/site visits* and *Seminars and presentations* with

mean index of 3.00 and 3.05 respectively indicate very weak support that is highly insignificant.

The other variables particularly the *'use of transactional objects'*, *'guest entrepreneurs'* and *'role playing and simulations'* scored below the neutral benchmark (3) indicating that the methods are rarely or never used.

Overall, the result shows that REM lecturers lean more on the use of lectures and reports without mixed methods that encourage experiential learning. The teaching strategies tend to develop the learning of principles and theories of a subject matter area at the expense of developing practical skills.

What this means is that there is a gap in the delivery of the curriculum because the lecturers' teaching practices cannot provide effective entrepreneurial REM education (as envisaged by the BMAS 2007). REM graduates from such teaching orientations are likely to have problems trying to apply what they have learnt in identifying and solving problems in the society. This means that they will manifest the learning gaps rather than the graduate outcomes expected from an effectively entrepreneurial REM education.

Overall, the result has implications for curriculum improvements using mixed methods and innovative strategies that encourage entrepreneurial learning, and training REM lecturers on how to implement the improvements.

Item 3: Skills and attributes reinforced by the REM lecturers (Appendix 4A)

This item seeks to understand whether or not the lecturers are reinforcing entrepreneurial skills and attributes in the teaching of their respective REM courses. The result will help to establish any teaching gaps, understand how best to overcome the gaps, and effectively embed entrepreneurship in the curriculum.

Item 3 is intuitively linked to RQ1 which is about understanding of how entrepreneurial competences inform LTA strategies in REM. It also relates to examination of gaps and curriculum improvements required to address the gaps (Obj. 2, RQ3).

The item was tested using eleven (11) variables that constitute entrepreneurial skills and attributes teased out from the entrepreneurship literature and best practices in entrepreneurial education. The variables were evaluated for support using the average opinion index and test of significance. Details of the result are indicated in table 6.8 below.

Table 6.8: Frequently reinforced attributes (fra…, Appendix 1)

Variable Description	Statistics /Mean	Interpretation	Significance (P-Value)	Inference/decision
– Ability to relate confidently with clients	4.14	Strong Support	P = 0.000 < 0.001	Result is very highly significant
Give direction and motivate group	3.48	Weak Support	P = 0.000 < 0.001	Result is highly significant
Solving problems from new perspectives	3.98	Weak Support	P = 0.000; < 0.001	Result is very highly significant
Courage to fail in attempt to improve	3.09	Weak Support	P = 1.00 > 0.05	Result is highly insignificant
Encouraging creativity	3.91	Weak Support	p= 0.000; < 0.001	Result is very highly significant
Working strategically to achieve deadlines	3.84	Weak Support	p= 0.000; < 0.001	Result is very highly significant
Team working	3.80	Weak Support	p= 0.000; < 0.001	Result is very highly significant
Setting and achieving targets	3.77	Weak Support	p= 0.000; < 0.001	Result is very highly significant
How to recognize and exploit opportunities	3.93	Weak Support	p= 0.000; < 0.001	Result is very highly significant
Wisdom to seek advice	4.11	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Starting new ventures that succeed	3.77	Weak Support	p= 0.000; < 0.001	Result is very highly significant

The result shows strong support for 'ability to relate confidently with clients (mean = 4.14)' and 'wisdom to seek advice (mean = 4.11)'. The evidence for all the other variables indicate weak support with very significant difference in the strength of opinion except 'courage to fail in attempt to improve on existing ways of doing things', for which there is no significant difference in strength of support.

The overall result indicates that the lecturers are not effectively reinforcing entrepreneurial skills in the teaching of their respective courses. The fact that there is some form of support for all the variables tend to suggest a kind of latent entrepreneurial content in the REM courses but this is not properly surfaced by the lecturers in their teaching.

The implication of the result for RQ1 is that in the design of a new curriculum, teaching methods and activities that reinforce those skills should be introduced in core REM courses and the skills-sets specified among the expected learning outcomes.

To this extent, there is an entrepreneurial curriculum delivery gap because the skills are not rigorously enforced in the teaching of the respective courses. The students will manifest entrepreneurial gap and could reflect such gaps in practice because the attributes are not reinforced to the extent the students can manifest entrepreneurial skills of value.

The gap could be attributed to the gap in the lecturers themselves who are mainly subject matter experts without teaching qualifications. There is therefore the need to train the lecturers on the rudiments of teaching and implementing the improved curriculum.

Item 4: Lecturers' Preferred approach to entrepreneurship education (Appendix 4A)

This question seeks to understand REM lecturers' preferred approach to entrepreneurship education in REM discipline. This question was asked to find out what approach or approaches lecturers would want for effective entrepreneurship education in the REM discipline.

Item 4 is linked to Obj.1, RQ.I - effective introduction of the ideas in the REM education and how best to embed the teaching of the skills and attributes in the REM curriculum. Item 4 also contributes insight to curriculum improvement (RQ3), the nature of the improved curriculum (RQ4) and demonstration of the new curriculum (Obj.5).

The result is presented in table 6.9 (Appendix 6) and figure 6.6 below

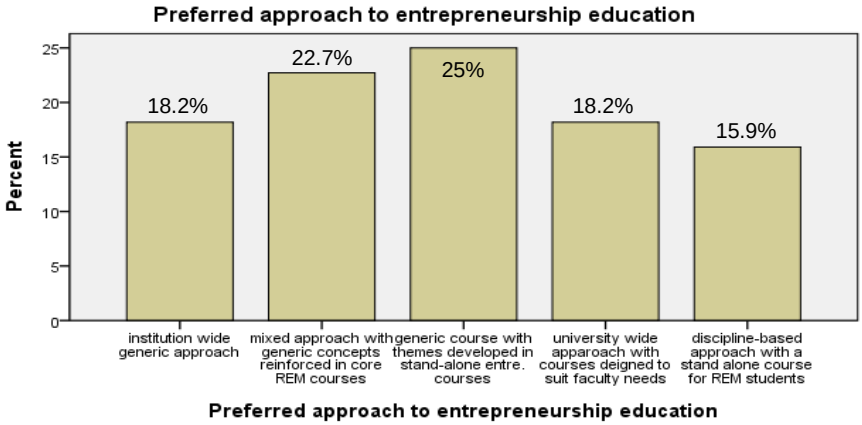


Figure 6.6: Chart showing REM lecturers preferred approach for entrepreneurship education

The result shows a general preference for all the 5 approaches with the mixed approach in its two varieties topping the preferences. The most popular option (preferred by 25% of the lecturers) is a mixed approach where a generic course for all year one students in the university is supported by stand-alone courses in subsequent levels of REM study to further develop the themes and constructs within the discipline. To implement this approach will require introducing four new courses i.e. one course for each of the subsequent four years after completion of year one program. In as much as this option is the most popular it cannot be implemented in the strict sense because it is almost impossible to effectively introduce four new courses into the already congested REM curricula. 22.7% prefer a mixed approach in which generic training provided by the Entrepreneurship Centre is reinforced in specific REM core courses. 18.2% prefer institution wide approach where a generic course

is offered and taught by the centre for entrepreneurship education for all the university disciplines. Another 18.2% prefer institution wide approach where entrepreneurship course designed by faculties to suite specific requirements of participating faculties. Finally, 15.9% prefer a one-off stand-alone course for REM discipline to be introduced into the curriculum and taught within the discipline.

The interesting insight from the analysis is that although lecturers marginally vary in their responses, their preferences fall within two broad categories – the mixed approaches and generic approaches. In this research, the ideas from the variety will be carefully structured into a more robust approach for effective entrepreneurial curriculum for REM discipline.

Item 5: Ideas and content of entrepreneurship education (Appendix 4A)

Item 5 seeks to understand the opinion of the lecturers about ideas and contents that should be included in an REM discipline specific entrepreneurial curriculum. This will enable an understanding of the ideas and contents that should be targeted in a new entrepreneurial curriculum for the discipline.

Item 5 relates to Obj.1, RQ1 - effective introduction of entrepreneurship ideas and how best to embed the ideas in the curriculum, the item contributes insights to establishing the links amongst entrepreneurship ideas and REM education and practice (Obj.4), curriculum improvement (RQ.3) and how to implement the new curriculum in specific REM courses (RQ.4).

The item was tested under eleven (11) variables teased out from entrepreneurship literature and best practices in entrepreneurship education. Details of the analysis are shown in Table 6.10 below.

Table 6.10: Ideas and contents of entrepreneurship education (ent…, Appendix 1)

Variable Description	Statistics/Mean	Interpretation	Significance (P-Value)	Inference/decision
Entrepreneurial mindset and attributes	4.36	Strong Support	P = 0.000 < 0.001	Result is very highly significant
Confidence, efficacy and leadership	4.52	Indicates Very Strong Support	p= 0.000; < 0.001	Result is very highly significant
How to develop real estate business plans	4.45	Strong Support	p= 0.000; < 0. 001	Result is very highly significant
Sources of venture capital	4.32	Strong Support	p= 0.000; < 0. 001	Result is very highly significant
Managing risks, complexity and unpredictability	4.27	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Business literacy	4.48	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Time management and career opportunities	4.34	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Discovery and exploiting wealth creation opportunities	4.34	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Social capital and networking	4.27	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Entrepreneurial business partnership	4.48	Strong Support	p= 0.000; < 0.001	Result is very highly significant
Negotiation skills	4.55	Very Strong Support	p= 0.000; < 0.001	Result is very highly significant

Two of the eleven variables, 'self-confidence, self-efficacy and leadership skills' (mean = 4.52; p = 0.000 < 0.001) and 'negotiation skills' (mean=4.55; p=.000; <.001) secured very strong support with differences in opinion that are very highly significant. All the remaining nine variables returned mean > 4.0 but <4.5; and p=.000; <.001, indicate strong support with very significant difference in the opinion of support.

The results show lecturers' strong support for all the ideas which means that they would strongly want all the tested ideas and contents to be reinforced in a typical entrepreneurship curriculum for REM. The ideas are strongly linked to REM education and should be part of any programme of entrepreneurship for REM students.

Thus, these findings give insights into the entrepreneurial ideas and contents that should be emphasized in a new entrepreneurial curriculum for effective entrepreneurship education in the REM discipline. However, a first look at the BMAS curriculum shows that the ideas are not specifically mentioned in the current generic entrepreneurship education syllabus in the universities. This means that REM students passing through the programme may not acquire and surface related skills in their training.

The result has implication for a mixed approach to entrepreneurship education to give flexibility to structuring the ideas and into the content of REM curriculum for effective teaching of the ideas in that context. The result also has implication for involving experts in the design of entrepreneurial curriculum for REM education and training the lecturers to enable effective delivery.

Item 6: Opinion about who should teach entrepreneurship (Appendix 4A)

Lecturers were asked to indicate their preferences about who should teach entrepreneurship in the REM discipline. The rationale for this item is to gain insight into who should teach entrepreneurship as part of the desired innovations for effective entrepreneurship education in the REM discipline.

Item 6 is linked to Obj.1, RQ.1 about effective introduction of entrepreneurship ideas in the REM education and how entrepreneurial competences inform LTA strategies in REM education. It also relates to examination of possible gaps in the curriculum, curriculum improvements required to address the gaps and the nature of the new curriculum which inculcates the innovations i.e. new teaching arrangements (Obj.2, RQ3 & RQ4).

The item was tested using seven options for teaching entrepreneurship. The test was structured on a 7-point Likert scale and lecturers were required to rate the options in order of their preference where 7 is most preferred and 1 is least preferred. The result of the analysis is shown in Table 6.11

Table 6.11: Preferred Entrepreneurship Teacher (prf…, Appendix 1)

Variable Description	Statistics/ Mean	Interpretation	Significance (P-Value)	Inference/decision
Core REM courses lecturers	4.30	Weak Support	p = 0.350 > 0.05	Insignificant
Elective course lecturers in related departments	3.82	No Support	p= 0.561; > 0.05	Insignificant
Lecturers trained by special units such as entrepreneurship studies center	4.61	weak Support	p= 0.045; < 0.05	Result is significant
Lecturers from business faculty	3.70	No Support	p= 0.331; > 0.05	Insignificant
Core REM course lecturers supported by REM practitioners	4.43	Weak Support	p= 0.240; > 0.05	Insignificant
Only estate surveyors and valuers in practice	4.42	Weak Support	p= 0.467; > 0.05	Insignificant
Experienced entrepreneurs from any industry	3.89	No Support	p= 0.726; > 0.05	Insignificant

The average opinion index (mean score) for four out of the seven variables gravitate around the neutral index (4), with p-values ($p < 0.05$) indicating a weak support for those items. Even the variable –'Lecturers from the university's Centre for entrepreneurship education' (mean = 4.61 and $p = 0.045 < 0.05$) also indicates a weak support with significant difference in the strength of support. There is no support for the use of course lecturers in related departments, business faculties and entrepreneurs from other industry

The result could be interpreted to mean that REM lecturers have low preference for all the options except facilitators from the university's centre for entrepreneurship education. It could also be interpreted to mean that the REM lecturers are indifferent about who teaches entrepreneurship. The researcher thinks that the second interpretation is the most likely as most lecturers may not yet have grasp of the issues involved in entrepreneurship education to enable informed opinion about what to teach, how to teach and who should teach.

Effective entrepreneurship education requires a mixed approach and variety of resource persons to communicate the different strands of skills more efficiently. Such a combined approach places the course lecturer as a key facilitator to involve the relevant resource person that best communicates the required skills.

This result has strong implication for educating the stakeholders in REM education to understand the entailment of entrepreneurship education in the context of REM, as opposed to enterprise teaching which focuses on skills for business start-ups.

Item 7: Lecturers comments about how the teaching in the REM programme enables students to become entrepreneurial (Item 7, Appendix 4)

"If you generally believe that the real estate surveying profession is inherently entrepreneurial, explain how the current ways the programme is taught enable students to become entrepreneurial on graduation"

This question was asked to enable an understating of how entrepreneurial the LTA practices in the programme are. The result will enhance understanding of the gaps in the traditional REM curriculum. That is, the question asks whether the curriculum for REM education enable students to exhibit entrepreneurial traits on graduation.

Item 7 is intuitively linked to Obj.1, RQ.1 - issues in entrepreneurship education in REM discipline and how entrepreneurial competences inform LTA strategies in REM education. It also relates to examination of possible gaps in REM education (entrepreneurial gaps) Obj.2 and contributes insight into establishing how the gaps in REM education relate to gaps in practice (Obj.4; RQ3).

Tables 6.12 and 6.13: Summary of lecturers' responses about how entrepreneurial competences inform LTA strategies in the traditional curriculum

6.12: Real estate surveying profession is inherently entrepreneurial but the training in the university programme is not entrepreneurial.

- The **teaching** in the programme is not entrepreneurial.
- Entrepreneurship education is **not a compulsory course**
- Students are not given **entrepreneurship education in the context of REM discipline**
- The **current LTA practices** are **not focused on helping students become entrepreneurs**. However it equips students with the art and science of doing the professional job
- Nigerian education is generally deficient in **contextual teaching and learning**
- "Apart from SIWES, the current teaching methods have **little bearing on entrepreneurial skills development** although some lecturers with experience do attempt to integrate entrepreneurship in their teaching"

The words and phrases in bold are highlights of reasons averred to support the argument that the training in the traditional curricula for REM education is not capable of helping students to become entrepreneurial on graduation.

6.13: Real estate surveying profession is inherently entrepreneurial and some teaching practices can enable students become entrepreneurial.

Summary of teaching practices in REM programme that can enable students become entrepreneurial on graduation:

- Undergraduate programme is basically **taught as a trade/vocation**. Such bias **encourages entrepreneurial skills and 'can do' spirit**
- In some universities, **entrepreneurship courses are part of the REM curriculum** and taught at 300 and 500 levels.
- **SIWES plus public lecturers** do prepare student on what to expect in the society.
- Use of **field trips** and encouraging student to attend **seminars and workshops** do enable student to become entrepreneurial.
- The curriculum for training student exposes and quips them with basic principles of what it takes to practice the profession.
- Entrepreneurial experience is expected to be gained **in the course of professional practice.**
- Students are taught in a way that exposes them to all aspects of the profession in addition to giving them practical knowledge and experience i.e. Technical knowledge and skills for professional practice.
- **Regular field work** in which student empirically study real life Real Estate investment problem issues.
- Entrepreneurship is a **component of professional practice** and **project management.**
- **T**wo entrepreneurship courses are taught in the programme – **General principles of entrepreneurship** at the first year and then **Real Estate Business** at the final year.
- **Students** are encouraged to carry out **projects** and discuss in class.
- Entrepreneurship is **associated with other courses** like computer science, mathematics, economics, and business practice skills.
- Teaching of theory combined with **SIWES**.
- Teaching of core REM courses are geared towards making students entrepreneurial. ***(How?)***
- Learning of **courses within and outside the department** enable student to become entrepreneurial?
- Students are taught to become entrepreneurial through courses like **"introduction to estate management and professional practice.**
- Courses like **valuation, property management and real estate appraisal** are **taught as fields of specialization** that can be practiced.
- Final year students are given **assignments that involve report writing**.
- **SIWES programme** has been designed to foster entrepreneurial experience among students in real estate profession.

The words and phrases in bold are highlights of LTA practices in the traditional curricula for REM education that can enable students become entrepreneurial on graduation.

The result shows that there is a consensus among REM lecturers that real estate surveying profession is inherently entrepreneurial. Opinions are, however, divided about whether entrepreneurial competences inform the LTA practices. Some argue that the programme is not designed to train students to become entrepreneurs while others argue that to some extent the LTA practices can enable students develop entrepreneurial skills.

The implication of the result is that the LTA strategies in the traditional curriculum are not adequately informed by entrepreneurial competences and present entrepreneurial gaps. We reiterate that this gap is traceable to the lack of formal entrepreneurial LTA skills among the lecturers earlier mentioned.

Item 8: What innovations are required to make the training in the REM programme more entrepreneurial? (Appendix 4)

Lecturers were asked to suggest innovations required in the REM education to make the programme more entrepreneurial. The rationale for the question is to enable an understanding of innovations required in the traditional curricula to close entrepreneurial gaps in the programme.

Item 8 relates to Obj.1, RQ.1 regarding issues of entrepreneurship education and how best to embed the ideas in the REM curriculum. The item relates to RQ3 on curriculum improvements and contributes insight to the nature of the new curriculum that implements the entrepreneurial innovations (RQ.4).

Table 6.14: Suggested Innovations to improve the REM curriculum

ITEM 8: Innovations required to make the teaching of REM programme more entrepreneurial
• Develop the curriculum to explore the investment opportunities in real estate field. • Students should be taught how to start real estate business, how to deal with clients and negotiate for jobs from the programme. • Teaching strategies like case study that challenge students should be used. • Entrepreneurship should be made a compulsory course and taught by core REM course lecturers, complemented by experienced entrepreneurs, widen exposure during SIWES. • Introduce entrepreneurship courses in the curriculum. • Introduce entrepreneurship education with deep rooted theoretical and practical relevance to REM programme. • Inculcate sound negotiation skill and marketing ability. • Expose students to industry. • Attach student to mentors. • Invite practicing surveyors to interact with students from time to time. • Introduce business and marketing courses in REM curriculum. • Inculcate sound entrepreneurial skills in the teaching of REM. • Incorporate courses on nature, formation and sustenance of business relationship, identification and cultivation of business opportunities in the curriculum. • More problem solving activities in teaching of core courses. • Use original problems generated by the industry. • Wider exposure of students to industrial training as part of the curriculum. • Current entrepreneurial training should be improved by making it real estate related rather than general business. • Merge theory and practice by inviting practicing real estate surveyors to interact with student from time to time. • Integrate business skills and industry requirement in the teaching of core REM courses. • Introduce entrepreneurship education in the regular curriculum for all the universities offering real estate management. • There should be constant evaluation of students' performance in the job market so that the result could be used to further enrich the curriculum. (This research is one such evaluation/contribution to knowledge). • Mandate final year student to write professional practice exams and state the professional skills they have learnt in the course of the programme before graduation (Entrepreneurship understood as professional practice). • Education summit/retreat to adopt a common ground for teaching entrepreneurial skills relevant to REM profession. • Sending or attaching students to entrepreneurial outfit.

The above suggestions will inform ideas that will be considered in the curriculum improvement.

Item 9: Learning Assessment (Appendix 4)

Lecturers were asked to indicate the extent to which they use the various assessment criteria in assessing students learning.

The rationale for the question is to understand the lecturers' assessment strategies with a view to gaining insight into whether such strategies can effectively probe students learning experiences and to identify any gaps. These strategies can be evaluated against a general set of assessment strategies that are discussed in the literature on assessments for learning and employability, in order to gauge their adequacy in achieving this purpose.

Item 9 has strong bearing on Objective 2 exploration of issues of learning assessment, learning outcomes and possible gaps in the traditional curriculum. It also relates to understanding of how the gaps in the REM curriculum relates to gaps in practice and curriculum improvements required for closing the gaps (Obj. 4, RQ3 and RQ4).

The item was tested using 13 variables that represent assessment strategies from the learning literature and the elements of assessment in the ideal curriculum. Details of the analysis are shown in table 6.15.

Table 6.15: Rem Academics Assessment Criteria (ascrit…, Appendix 1)

Variable Description	Mean Index	Interpretation	Significance (P-Value)	Inference/decision
Written examination	4.75	Strong Support	p = 0.000 < 0.001	Very significant
Laboratory/studio reports	2.57	No Support	P = 0.048; < 0.05	Result is significant
Formal quizzes and tests	4.11	Strong Support	p= 0.000;< 0.001	Very highly significant
Attendance to lectures	4.11	Strong Support	p= 0.000;< 0.001	Very highly significant
Essay assignment/term papers	4.11	Strong Support	p= 0.000;< 0.001	Very highly significant
Problem solving assignments	4.07	Strong Support	p= 0.000;< 0.001	Very highly significant
Timely and relevant feedbacks from students	3.27	Weak Support	p= 0.135; > 0.05	Result is Insignificant
Oral presentations	3.32	Weak Support	p= 0.037; > 0.05	Result is insignificant
Group project work	3.64	Weak Support	p= 0.000;< 0.001	Very highly significant
Individual project work	4.18	Strong Support	p= 0.000;< 0.001	Very highly significant
Report on external placement (SIWES)	4.11	Strong Support	p= 0.000;< 0.001	Very highly significant
External examiner's report	4.00	Strong Support	p= 0.000;< 0.001	Very highly significant
Student's self -assessment	2.93	No Support	p= 0.762;> 0.05	Result is very insignificant

The test was structured on a 5-point Likert scale and lecturers were required to indicate how often they use the various strategies in the assessment of students learning outcomes.

The result shows very strong support for the use of written examinations (mean = 4.75; p = 0.000 < 0.001) and very highly significant difference in the strength of support). The result indicates strong supports for formal quizzes and tests, lecture attendance, essays and problem solving assignments. The result indicates weak support for oral presentation. The strength of support for lab/studio activities is extremely weak (mean= 2.57; P = 0.048; <0.05) with a very significant difference in the strength of opinion which means that the criteria is rarely or never used in the students assessment.

REM lecturers always use formal exams and other assessment criteria with strong inclination to formal exams in assessment of students learning. The result reflects lecturers' use of a kind of mixed assessment criteria that leans strongly towards assessment of learning at the neglect of assessment for learning by the course lecturers. Apart from the use of individual problem solving assignments and written assignments like essay, term paper and dissertation which are often used for end of semester or end of term assessment, lecturers rarely use assessment criteria like group project work and lab and studio reports that tests demonstration of skills.

The implication of the result is that there is a learning gap (indeed a curriculum delivery gap) due to the fact that lecturers do not use assessment strategies that probe and encourage students' demonstration of skills and "can do" attitude in assessment for students learning experiences.

This gap could be due to a gap in the interpretation of the curriculum. If lecturers have proper interpretation of learning outcomes they would have been using a proper mix of assessment criteria that probes the learning contents, theories, principles and demonstration of higher order skills. The fact that there is gap in assessment means that the current LTA practices in the traditional curriculum cannot deliver effective REM education, let alone entrepreneurial education.

Item 10: Skill-sets reinforced to enable students to demonstrate graduate outcomes (Appendix 4A)

How often do you teach your chosen REM course in such a way that the students that you teach are able to demonstrate the following learning components on graduation?

The rationale for this question is to understand whether the overall REM programme equips the students with skill-sets/graduate outcomes expected from effective REM education.

Item 10 elates to Obj.2, RQ.2 on examination of the LTA practices in the traditional curriculum, the quality of graduates, and the gaps revealed in practice by the REM graduates. It also relates to RQ3 about how the gaps in teaching relates to gaps in practice

and improvements required to address the gaps and make the REM education more effective (RQ.4).

The item was evaluated based on the key skills-sets made up of 17 variables teased out from the NUC BMAS, 2007. The evaluation criteria was on a 5-point Likert scale ranging from 'never' for score of 1, to 'Always' for a score of 5 and analysed using average opinion index compared to the neutral value (3). Decisions about the strength of support were made using the criteria described in the forgoing section. Detailed results of the analysis are presented below in Table 6.16.

Table 6.16: Skill-sets reinforced by REM education

Variable Description	Mean Index	Interpretation	T-statistic (P-Value)	Inference
Subject knowledge	4.59	Very Strong Support	p = 0.000 < 0.001	Very highly significant
Subject specific technical skills	4.64	Very Strong Support	p= 0.000;< 0.001	Very highly significant
Research skills	4.70	Very Strong Support	p= 0.000;< 0.001	Very highly significant
Problem identification skills	4.41	Strong Support	p= 0.000;< 0.001	Very highly significant
Presentation skills	4.55	Very Strong Support	p= 0.000;< 0.001	Very highly significant
Business startup skills	3.52	Weak Support	p= 0.003;< 0.01	Very significant
Networking skills	3.36	Weak Support	p= 0.034; > 0.05	Insignificant
Ethical standards	4.07	Strong Support	p= 0.000;< 0.001	Result is very significant
Critical thinking and reasoning	4.41	Strong Support	p= 0.000;< 0.001	Very highly significant
REM ICT skills	3.02	Weak Support	p= 0.906;> 0.05	Very insignificant
Entrepreneurial skills	3.68	Weak Support	p= 0.000;< 0.001	Highly significant
Oral communication skills	3.89	Weak Support	p= 0.000;< 0.001	Very significant
Computation and numeracy skills	3.48	Weak Support	p= 0.009;> 0.01	Insignificant
Interpersonal skills	3.45	Weak Support	P= 0.002;< 0.01	Highly significant
Problems solving skills	3.82	Weak Support	P= 0.000;< 0.001	Very significant
Time management skills	3.93	Weak Support	P= 0.000;< 0.001	Result is very highly significant
Records and accountability skills	3.30	Weak Support	P= 0.108;> 0.05	Result is insignificant

The result shows very strong support with very significant difference in the strength of opinions for subject knowledge (mean = 4.59), subject specific technical skills (mean=4.64), research skills (mean=4.70), presentation skills (mean=4.55) and strong support for problem identification skills. The analysis shows weak support for entrepreneurial skills (mean=3.68), business start-up skills (mean=3.52), ICT skills (mean=3.02), problem solving skills (mean=3.82) and time management skills (mean=3.93), all showing significant difference in the strength of opinion.

The result shows that the skills-sets for effective demonstration of the academic and technical knowledge of the subject matter are adequately reinforced in the implementation of the REM programs, while entrepreneurial skills and the associated skills-set are not. The skills-set required by the NUC standards for REM education are not adequately reinforced in the teaching of REM programs which means that the students are not adequately equipped to manifest graduate outcomes expected from effective REM education because of the gaps in the implementation of the programs. Consequently the REM graduates are likely to manifest entrepreneurial gap, business enterprise management gaps and ICT gaps for example in the world of work.

Overall, the item contributes insight to understanding the gaps in the implementation of the NUC standards for REM education Nigeria. The gap mainly emanates from the gaps in the LTA practices in the traditional curriculum. It has implications for innovations in the REM curriculum to make the learning teaching and assessment practices more entrepreneurial.

6.7 Summary and conclusion

This chapter implemented the data analysis guidelines in Chapter 5 for REM academics. The key results in the chapter are associated with item-by-item analysis of the questionnaire responses. The results were interpreted for each item in terms of what they mean for the research questions and objectives the items are associated with based on the methodological maps developed in Chapter 4. It was found that:

- REM lecturers are generally well qualified in subject matter knowledge; about 95% have a minimum masters degrees. Also about 80% of them possess relevant professional qualifications. However, only 4.5% of the lecturers have teaching qualifications such as a postgraduate diploma in education. This means that they may not be experienced in curriculum design and delivery required to effectively implement entrepreneurial learning outcomes.

- Other findings showed that REM lecturers indicate that enterprise teaching in the course and universities can be located in different areas, for example as compulsory departmental courses, in related departments, and centrally in a centre for entrepreneurial studies, without good understanding of the merits or otherwise of so doing.

- Detailed item analysis too numerous to repeat in this summary show that there are manifest gaps in the learning and teaching of REM in Nigerian universities. These gaps reflect what is known in the literature about generic gaps in learning (Cox & Light, 2005; Ezepue, 2008), and importantly they particularly relate more with those gaps that are

more directly associated with entrepreneurial skills. Hence, the analyses show the existence of entrepreneurial learning gap in REM education in Nigerian universities.

These conclusions will be combined with similar results in Chapters 7 and 8 for a rounded view of the phenomenon of learning gaps, particularly, entrepreneurial learning gaps in REM education and related curriculum innovations in Chapter 10 of the thesis.

CHAPTER 7: ANALYSIS OF THE RESEARCH DATA FOR REM STUDENTS

7.1 Introduction

This chapter presents similar analyses of the research data as in Chapter 6 for the REM students. The aim is to obtain useful insights from students' opinions regarding entrepreneurial aspects of their learning.

Item 1: Conceptions of learning by REM academics

Students were asked to indicate their support for a range of learning conceptions based on their LTA experiences in the programme. Their opinions were required on a five point likert scale - 'strongly agree', 'agree', 'neutral', 'disagree',' strongly disagree ' to indicate their level of agreement with the learning ideas.

"What do you understand by 'learning' in Estate Management discipline, judging by your learning, teaching and assessment experiences in the department?"

The rationale for the question is to gain insight into the students' perception about learning and whether their conceptions in any way contribute to learning gaps.

The item is linked to Obj. 2, exploration of conceptions of learning in the traditional curriculum to examine possible gaps. It is also linked to understanding of how entrepreneurial competences inform LTA strategies in REM (RQ1).

Table 7.1 shows the details of the variable descriptions and the statistical tests result (overall mean index and the p-values) for students' conceptions of learning.

Table 7.1: Students Conceptions of Learning (Appendix 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
Learning is information about theory and principles of subject matter	3.86	Weak Support	p = 0.000 < 0.001	Very highly significant
Memorizing and reproducing information	3.40	Weak Support	p= 0.000; < 0.001	Very highly significant
Acquisition and application of facts	4.29	Strong Support	p= 0.000; < 0.001	Very highly significant
Gaining understanding in a different way	3.84	Weak Support	p= 0.000; < 0.001	Very highly significant
Synthesis/interpretation and abstraction of knowledge	3.88	Weak Support	p= 0.000; < 0.001	Very highly significant
Stimulation of multiple senses	4.19	Strong Support	p= 0.000; < 0.001	Very highly significant

Table 7.1 above summarizes the results. Six variables were tested under this item out of which learning as ‘memorizing, storing and reproducing information' with a mean= 3.40 has the least score. The average opinion index of responses for all the other 5 variables is above the neutral score of 3 (on the 5-point Likert scale). Learning as ‘acquisition and application of facts' (mean = 4.29; p = 0.000 < 0.001); and 'learning as stimulation of multiple senses (mean = 4.12, p=0.000<0.001)' were in the top range. These not only indicate strong support for the variables but difference in opinion of support that is very highly significant.

The other variables namely, 'learning as synthesis and interpretation of reality in a different way (mean = 3.88), p= 000;<0.001)' 'learning as gaining information about theory and principles of the subject matter (mean= 3.86, p=0.000<0.001)'; and 'learning as gaining understanding and abstracting meaning (mean=3.84; p= .000; <0.001)' also show evidence of support that is very weak.

The result shows that students from their learning experiences in the discipline perceive learning from the broad based and balanced perspective that should result in effective learning, if well implemented. They mainly conceptualize learning from the traditional perspective of acquisition of technical knowledge, understanding of fact, skills and methods and applying same in solving societal problems.

The students’ conceptions correspond to lecturers’ conceptions of learning with strong support for acquisition and application of knowledge. The implication is that the students’ conceptions (like the lecturers’) reveal some intrinsic entrepreneurial gap that needs to be closed.

Item 2: Learning/Teaching methods used by REM lecturers (Appendix 4B)

The rationale for this item is to explore students’ learning strategies based on how they were taught in the traditional curriculum with a view to understanding how entrepreneurial competencies inform the strategies and identifying gaps. This will also inform an understanding of innovations required in the LTA processes to make the students’ learning more entrepreneurial.

The item relates to RQ1- how entrepreneurial competences inform LTA strategies in REM education. It also contributes insight to understanding of how the gaps in the way students are taught relate to gaps revealed by young graduates in practice and how entrepreneurship education addresses those gaps (Obj.3; RQ.2).

The item was tested under eleven (11) variables and analysed using the test parameters for the ordinal data as already described in the analysis of REM academics survey. The details of the result are shown on Table 7.2 below.

Table 7.2: STUDENTS PERCEPTION OF THE LECTURERS' TEACHING METHODS (Appendix 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
Lecture	4.12	Strong Support	p = 0.000 < 0.001	Very highly significant
Problem based method	3.28	Weak Support	p= 0.000; < 0.001	Very highly significant
Tutorials	2.35	Lack of Support	p= 0.000; < 0.001	Very highly significant
Seminars and presentations	2.03	Lack of Support	p= 0.000; < 0.001	Very highly significant
Field trip/site visits	2.18	Lack of Support	p= 0.000; < 0.001	Very highly significant
Use of transactional objects	1.24	Lack of Support	p= 0.000; < 0.001	Very highly significant
Guest entrepreneurs in real estate practice	2.14	Lack of Support	p= 0.000; < 0.001	Very highly significant
Role playing and stimulation	2.11	Lack of Support	p= 0.000; < 0.001	Very highly significant
Reports and essay writing assignments	4.29	Strong Support	p= 0.000; < 0.001	Very highly significant
Student self-selected tasks	2.82	Lack of Support	P= 0.027;< 0.05	Result is significant
Students paired or group assignments	3.60	Weak Support	p= 0.000; < 0.001	Very highly significant
Timely feedbacks from student teams	3.21	Weak Support	P= 0.004;< 0.001	High significant

Looking at the table, there is an indication of strong support for lecture method (mean = 4.12; p=0.000 <0.001) and Engaging students in assignments that involve reports, essays, term papers/dissertation (mean=4.29; p=.000;<.001). The analysis also indicates weak support for students working in teams (mean= 3.60); very weak support for problem based method (mean= 3.28) and timely feedback from students teams.

The rest of the methods scored below the acceptable level of support of neutral index (3) which indicates that in the opinion of the students, lecturers rarely or never use the methods. The variables under this category are: Field trips/site visit; Seminars and presentations; tutorials; use of transactional objects; inviting guest entrepreneurs; role playing and simulations.

The result shows that the students learning strategies are not informed by entrepreneurial competencies. The learning strategies focus much on lectures, essays and reports which lead to learning of many contents to the neglect of experiential strategies that enable student's understanding of what to do with the knowledge and actually demonstrating how to do it. The learning strategies obviously present entrepreneurial learning gap and students graduating from the program are likely to manifest the gap by being deficient in demonstration of entrepreneurial skills.

In the opinion of the students, the strategies used by the REM lecturers are not informed by entrepreneurial competences. The result corresponds with the analysis of the academics' response on the same item therefore reaffirming the learning gap.

7.2 Student's view of required entrepreneurial skills and attributes

Item 3: Skills and attributes reinforced in the teaching and learning (Appendix 4B)

This item seeks to understand whether students learning of entrepreneurial skills and attributes are reinforced in the core REM course. The result will help to understand innovations required to make the learning of entrepreneurship more effective.

Item 3 is intuitively linked to RQ1about understanding of how entrepreneurial competences inform LTA strategies in REM. It also relates to examination of gaps and curriculum improvement required to address the gaps (Obj.2; RQ3).

The item was tested using eleven (11) factors that constitute entrepreneurial skills and attributes teased out from the entrepreneurship literature and tested for support using average opinion index and test of significance. Details of the result are indicated in Table 7.3.

TABLE 7.3: STUDENTS OPINIONS ABOUT SKILLS AND ATTRIBUTES REINFORCED BY LECTURERS (Appendix 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
How to relate confidently with clients	3.68	Weak Support	p= 0.000; < 0.001	Very significant
Give direction and motivate groups	3.43	Weak Support	p= 0.000; < 0.001	Very significant
Approach and solve problems from new perspectives	3.35	Weak Support	p= 0.000; < 0.001	Very significant
Taking risks, courage to fail in attempt to improve	2.42	Lack of Support	p= 0.000; < 0.001	Very significant
Encouraging creativity	3.25	Weak Support	p= 0.001; < 0.01	Highly significant
Working strategically to achieve deadlines	3.96	Weak Support	p= 0.000; < 0.001	Very significant
Team working	3.69	Weak Support	p= 0.000; < 0.001	Very significant
Setting and achieving targets	3.41	Weak Support	p= 0.000; < 0.001	Very significant
Recognizing and exploiting opportunity	3.67	Weak Support	p= 0.000; < 0.001	Very significant
Wisdom to seek advice	3.88	Weak Support	P= 0.027;< 0 .05	Significant result
Knowledge and skill to start new ventures and succeed	3.51	Weak Support	p= 0.000; < 0.001	Very significant

The result shows weak support for 'ability to relate confidently with clients (mean=3.68)' and 'wisdom to seek advice (mean=3.88)' 'recognizing and exploiting opportunities' (mean=3.67); 'working strategically to achieve deadlines (mean=3.97)'; knowledge and skills to start new ventures (mean=3.51). The evidence for all the other variables indicates

very weak support or no support as in the case of 'courage to fail in attempt to improve on existing ways of doing things' with a mean index of 2.42 which is below the acceptable range.

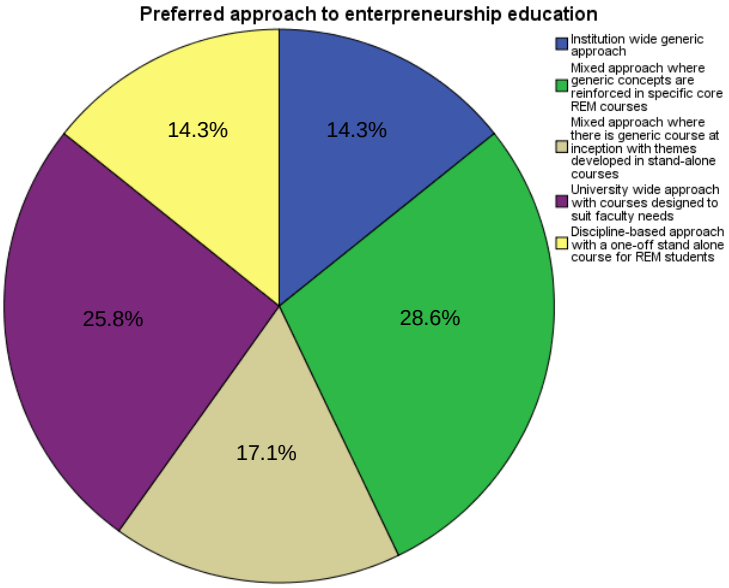
The result shows that the students' learning of entrepreneurial skills is not strongly reinforced by lecturers in the teaching and learning of REM courses. The implication of the result is that students are likely to manifest entrepreneurial gap and could reflect such gaps in practice because the attributes are not reinforced to a reasonable extent.

Item 4: Students' preferred approach to entrepreneurship education

Item 4 seeks to understand the students' preferred approach to entrepreneurship education in REM discipline. This question was asked to find out what approach students would prefer for effective learning of entrepreneurship.

Item 4 is linked to Obj.1,RQ.I- effective introduction of ideas in the REM education and how best to embed the teaching of the skills and attributes in the REM curriculum. Item 4 also contributes insight to curriculum improvement (RQ3), the nature of the improved curriculum (RQ4) and demonstration of the new curriculum (Obj.5).

The result is presented in table 7.4 (Appendix 6) and figure 7.1 below.



The result shows that 14% of the students prefer institution wide generic approach to entrepreneurship education, about 46% prefer mixed approach of different variety, 26% prefer faculty wide approach while 14% prefer discipline based approach alone. The most preferred is mixed approach whereby generic concepts taught by the institutions' centre for entrepreneurship education is reinforced in specific core REM courses at the department.

The implication of the result is that students prefer an approach that enables them to learn how to be entrepreneurial in the context of real estate management.

7.3 Students' opinions of ideas and content of entrepreneurship education

Item 5: Ideas and content for entrepreneurship education (Appendix 4B)

Item 5 seeks to understand the opinion of the students about ideas and contents that should be included in a typical entrepreneurial curriculum for REM education. This will enable an understanding of the ideas and contents that should be targeted in a new entrepreneurial curriculum for the discipline.

Links to Objectives and RQs: Item 5 relates to Obj.1;RQ1- effective introduction of entrepreneurship ideas and how best to embed the ideas in the curriculum. It contributes insights to establishing the links amongst entrepreneurship ideas and REM education and practice (Obj.4), curriculum improvement (RQ.3) and how to implement the new curriculum in specific REM courses (RQ.4).

The item was tested under twelve (12) variables teased out from entrepreneurship literature and best practices in entrepreneurship education. The details of the analysis are presented in table 7.5 below.

TABLE 7.5: STUDENTS OPINION ABOUT IDEAS AND CONTENTS OF ENTREPRENEURSHIP EDUCATION (APPENDIX 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
How to develop entrepreneurial mindset	4.26	Strong Support	p= 0.000; < 0.001	Very highly significant
How to develop entrepreneurial Skills and attributes for REM practice	4.07	Strong Support	p= 0.000; < 0.001	Very highly significant
Self-confidence, efficacy and leadership	4.21	Strong Support	p= 0.000; < 0.001	Very highly significant
Real estate venture capital	4.20	Strong Support	p= 0.000; < 0.001	Very highly significant
Real estate business plan	4.24	Strong support	P=0.000;<0.001	Very highly significant
Managing risks, complexity and unpredictability	4.27	Strong Support	p= 0.000; < 0.001	Very highly significant
Business literacy	4.35	Strong Support	p= 0.000; < 0.001	Very highly significant
Time management	4.25	Strong Support	p= 0.000; < 0.001	Very highly significant
Discovery and exploiting opportunities	3.98	Weak Support	p= 0.000; < 0.001	Very highly significant
Social capital and networking	4.36	Strong Support	p= 0.000; < 0.001	Very highly significant
Setting up sole business and partnerships	4.17	Strong Support	p= 0.000; < 0.001	Very highly significant
Negotiation skills	3.71	Weak Support	p= 0.000; < 0.001	Very highly significant

Two of the twelve variables- 'how to discover and exploit opportunities' (mean=3.98; p=.000; <.001) and 'negotiation skills' (mean=3.71; p=.000; <.001) secured a fairly weak support with significant differences in the strength of opinion. All the remaining ten variables returned mean > 4.0 but <4.5; and p=.000; <.001, indicating strong support with very significant differences in the strength of support.

The overall result shows support for all the variables indicating that REM students would strongly want all the tested ideas and contents inculcated in the entrepreneurship curriculum for REM education. The total support for the ideas could be interpreted to mean that the ideas are strongly linked to effective REM education and should be part of any programme of entrepreneurship for REM students.

This result has given insight into the entrepreneurial ideas and contents that should be emphasized in a new entrepreneurial curriculum for effective entrepreneurship education in the discipline.

The implication of this result to the overall research is the need for a mixed approach to entrepreneurship education to enable the teaching of the generic ideas and contents in a separate course and then reinforcing the teaching of the skills in specific REM core courses. It also has implication for training the educators to enable effective implementation of entrepreneurial curriculum for REM.

Item 6: Students' opinion about who should teach entrepreneurship

Students were asked to indicate their preferences about who should teach entrepreneurship in the REM discipline. The rationale for this item is to gain insight into who should teach entrepreneurship as part of the desired innovations for effective entrepreneurship education in the REM discipline.

Item 6 is linked to Obj.1, RQ.1 about effective introduction of entrepreneurship ideas in the REM education and how entrepreneurial competences inform LTA strategies in REM education. It also relates to examination of possible gaps in the curriculum, improvements required to address the gaps to improve the quality of graduates (Obj.2, RQ3 & RQ4).

The item was tested using seven variables that represent options for facilitating entrepreneurial teaching. The test was structured on a 7-point likert scale and students were required to rate the variables in order of their preferences where 7 is most preferred and 1 is least preferred, the neutral index which serves as the bench mark is 4. The details of the analysis are presented in table 7.6 below.

Table 7.6: STUDENTS' PREFERRED ENTREPRENUERSHIP TEACHER

Variable Description	Mean Index	Interpretation	P-Value	Inference
REM core course lecturers	4.04	Weak Support	p= 0.780; > 0.05	Insignificant
Elective course lecturers from related depts.	3.49	No Support	p= 0.001; < 0.01	Highly significant
Lecturers from university's entrepreneurship unit	5.12	Strong Support	p= 0.000; < 0.001	Very highly significant
Lecturers from business faculty	3.79	No Support	p= 0.155;> 0.05	Result is insignificant
Core REM course lecturers and REM practitioners	5.62	Strong Support	p= 0.000; < 0.001	Very highly significant
Only principals of REM firms	5.16	Strong Support	p= 0.000; < 0.001	Very highly significant
Experienced entrepreneurs from any industry	4.79	weak Support	p= 0.000; < 0.001	Very highly significant

In order of preference the result shows that the most preferred options are: Core REM course lecturers supported by experienced REM practitioners (mean=5.62); Only principal partners in real estate surveying and valuation firms (mean=5.16); Lecturers from Centre for Entrepreneurship education (mean=5.12) and Experienced entrepreneurs from any industry (4.79). The least preferred options starting from the least of the least are: Elective course lecturers from related departments (mean=3.49); Lecturers from business faculty (mean=3.79) and REM core course lecturers alone (mean=4.04).

Judging from the students' preferences, it is clear that students prefer teacher options that will provide a mix of knowledge and give a handle on how to be entrepreneurial in real estate surveying practice. In effect they would want the kind of teacher and teaching that will equip them with a mix of knowledge and skills for effective entrepreneurial REM education and practice.

The result has implication for curriculum innovations that inculcate a mixed approach, mixed methods and variety of resource persons to communicate the different strands of skills more efficiently. Such a combined approach places the course lecturer as a key facilitator to involve the relevant resource person that best communicates the required skills on need.

Item 7: Students comments about how the teaching in the REM programme imparts the potential for being entrepreneurial on graduation

ITEM 7: Explain the current ways in which you are taught in REM programme to enable you become entrepreneurial in real estate surveying practice on graduation.

The rationale for the item is to enable an understating of the general views about the real estate surveying profession being inherently entrepreneurial and whether the LTA in the university programme enables students to exhibit entrepreneurial skills on graduation. This will help to establish/identify and measure gaps in REM education.

Item 7 is intuitively linked to Obj.2, RQ.1- understanding of how entrepreneurial competences inform LTA strategies in REM education. It also relates to examination of gaps in the way students are taught REM education (entrepreneurial gaps) Obj.2; and contributes insight understanding how the gaps in REM education relate to gaps in practice (Obj.4; RQ3).

The following comments were paraphrased from the students open ended responses to item 7 of the survey questions. The comments are summarized in table 7.7 below.

Table 7.7: LTA practices in the programme that will enable students become entrepreneurial on graduation

- Basic skills in valuation. Ethical principles in property and portfolio management.
- Through students Industrial Work Experience Scheme (SIWES).
- Core REM courses were designed to be entrepreneurial and equip students with entrepreneurial attributes and skills to manage risk and complexity.
- The core courses like valuation feasibility and viability appraisals, property management, portfolio management land use resources etc. are inherently entrepreneurial and are capable of equipping students with direction to future career. (Employability).
- Assigning students to carry out field work which will result in report writing, land resource management, feasibility and viability.
- The teaching is not entrepreneurial because such training is designed to start during professional experiences after graduation.
- Students are taught the principles of client relationship, functions and duties of an estate surveyor, how to get briefs and manage staff. All these involve the skills of an entrepreneur.
- Students are only exposed to the aspects of entrepreneurship that will enable them set up own practice after professional qualification.
- SIWES experience enable students to learn how to bridge the gap and become an entrepreneur.
- From my industrial training programme I observed that most calculation taught in lecture room are totally different from what is being done in practice.
- The way students are taught enables them to solve problem with or without supervision and this helps them develop creativity.
- Entrepreneurship is about making profit and bearing risk. This is similar to REM which is marketing and management of landed property with a view to making optimum return.
- Students are taught how to discover skills for negotiating, manage time, take risk and develop entrepreneurial skills and attributes.
- Lectures given by Estate Surveyors in practice are effective in enhancing entrepreneurial skills.
- Lesson from Real Estate finance course enable students to know how to source funds for carrying out real estate projects.
- Field work, SWIES, interactive lecture sessions and professional awards.
- The teaching of the course – Entrepreneurial business development studies (EDS) enable students develop entrepreneurial potential.
- Students are taught how to manage risks, ability to set goals and actualize them.
- Tasks in valuation and terms papers which are like mini project.
- In the third year, students are taught a course that gives knowledge about entrepreneurs. That knowledge should enable students run a real estate business on graduation.
- Students are taught entrepreneurial course to help them become independent and interdependent entrepreneur.
- Real estate surveying is a clear enterprise because it is based on buying and selling in the property market.
- Students are taught not to depend in the public sector but to set up own private firm on graduation.
- Good examples in class as well as SIWES Programme give students real life experiences.
- Students are taught to be innovative and creative in applying knowledge gained in the classroom.

- The teaching in the programme enables students to start their own business and be self-employed.
- In some universities the students are taught courses in entrepreneurial real estate business and real estate entrepreneur. The training gives students idea about how to branch out or start on my own if getting a job later becomes a difficult task on graduation.
- Students are taught record keeping in principles of accounting.
- With the knowledge of urban land economics, a student can gain entrepreneurial skills for marketing real estate.
- Real estate surveying profession is inherently entrepreneurial but the skills are learnt in the course of professional practice.
- Continuous assessment, field work, SIWES.
- Much is expected from entrepreneurship training but less is achieved.

From the foregoing comments, students generally feel that the real estate surveying profession is inherently entrepreneurial and there are some LTA practices in the programme which imparts basic skills that can further be developed in practice to make graduates more entrepreneurial.

The list seems to cover all key teaching strategies encountered by students overall, but not all happening in each university. This suggests that some of the required strategies in a mixed LTA approach are in practice within the university. Hence, what is important for entrepreneurial REM education is how the specific activities covered within the strategies actually develop students' entrepreneurial capacities.

7.4 Students' perceptions regarding required innovations and entrepreneurial REM education

Item 8: What innovations are required in the curriculum to make the training in the REM programme more entrepreneurial? (Appendix 4B)

Students were asked to suggest innovations required in the REM education to make the programme more entrepreneurial. The rationale for the question is to enable an understanding of innovations required to close entrepreneurial gaps and make entrepreneurship education in REM more effective.

Links to Obj. & RQs: Item 8 relates to Obj.1,RQ.1 regarding issues of entrepreneurship education. The item relates to RQ3 – curriculum improvements and contributes insight to the nature of the new curriculum that implements the entrepreneurial innovations (RQ.4). The students' responses are summarised in table 7.8 below.

Table 7.8: Suggestions on how to make the training in REM programme more entrepreneurial

- Introduce a REM entrepreneurial course in the final year class.
- Conduct seminars for final year students.
- Invite estate surveyors and valuers in practice to teach student how to be entrepreneurial and skillful in REM practice.
- Encourage students to participate in practical real estate agency and property management while still in school.
- Give students more practical exposure by increasing the frequency of SIWES.

"It will be best if all REM students are exposed to the practical aspect of the course through industrial training in the early stage of the course like in the second semester of the second year, before the other one in the fourth year" UNEC(s) 23.

- The students should be provided with basic skills of how to be entrepreneurial when you graduate.
- Engage students in projects when still in school, set targets and deadlines and final result of the project should be presented at the end of the course.
- Involve other professionals especially those in the construction industry in the teaching of REM student.
- Educate students about the benefits of becoming an entrepreneur from when they are still in higher institution.
- Introduce more practical activities and give students assignments and tasks that involve field trips and site visits.
- The teaching is too abstract with no relation to real life practice. Student need to be taught presentation skills, and marketing skills.
- Incorporate networking and business skills into the curriculum.
- Teach students how to relate principles taught in the classroom to real life problem and how to tackle such problem.
- Teach entrepreneurship in the content of real estate management.
- Involving estate surveyors in practice are effective.
- Introduce entrepreneurship course in the final year to prepare graduating student for life and practice after university programme.
- Introduce training that helps students to develop confidence.
- It is only in the professional practice course that entrepreneurial aspect is explained.
- Expose students to practical experiences.
- Introduce better valuation technique and more idea about real estate business.
- The teaching in my school is basically about "get a good grade and get a good job " but I know that REM is entrepreneurial. I wish it is taught as such".
- More SIWES not just for 6 months in 5 years, more excursions, interactions with practitioner both estate surveyors and those in related fields.
- Lecturers should use practical and real life examples in teaching the core REM courses.
- Communication skills, marketing skills and how to apply basic theories should be sustained to make the training more entrepreneurial.
- Most teachings are theoretical through lectures. There is need for core courses to be taught by lecturers who are versatile in knowledge of business, who have managed or are still running a business venture or real estate surveying firm to teach students to make the programme more entrepreneurial.
- Entrepreneurial course should be designed by the faculty and adopted to suit specific requirement of student or made prerequisite in the participatory faculty.
- Entrepreneurship course should be introduced as a departmental course.
- I suggest that entrepreneurial studies should be effectively introduced in all REM departments in the higher institution in Nigeria.
- The university should employ lecturers that are more innovative and talented in entrepreneurship education.
- Lecturers' assessment strategies should be improved.
- Teaching should have a balance of theoretical and practical orientations.

The above ideas will be considered in the design of improved curriculum for effective entrepreneurship education in real estate management discipline.

Item 9: Learning Assessment criteria (Appendix 4B)

Students were asked to indicate the extent to which lecturers use the various criteria in assessment of students learning outcomes.

The rationale for the question is to understand the criteria used to assess students' learning with a view to gaining insight into whether such strategies can effectively assess students learning experiences and to identify any gaps.

Item 9 has strong bearing on Obj.2 exploration of issues of learning assessment, learning outcomes and possible gaps in the traditional curriculum. It also relates to how the gaps in the REM curriculum relates to gaps in practice and curriculum improvements required for closing the gaps (Obj.4; RQ3) and RQ4.

The item was tested using 13 variables that represent assessment strategies from the learning literature and the elements of assessment in the ideal curriculum. The details of the analysis result are shown in 7.9.

TABLE 7.9: STUDENTS' PERCEPTION ABOUT ASSESSMENT CRITERIA IN THE DISCIPLINE (Appendix 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
Written exam	4.26	Strong Support	P = 0.000; < 0.001	Very significant
Lab and studio reports	1.84	No Support	P = 0.000; < 0.001	Very highly significant
Quizzes and tests	3.72	Weak Support	P = 0.000; < 0 .001	Very significant
Lecture attendance	4.34	Strong Support	P = 0.155;> 0.05	Result is insignificant
Essay assignment and term papers	4.15	Strong Support	P = 0.000; < 0.001	Very significant
Problem solving assignments	3.80	Weak Support	P = 0.000; < 0.001	Very significant
Timely submission of assignments	2.73	Lack of Support	P = 0.000; < 0.001	Very significant
Oral presentation	2.88	No Support	P = 0.051; > 0.05	Result is insignificant
Group project work	3.80	Weak Support	P = 0.000; < 0.001	Very significant
Individual project work	3.81	Weak Support	P = 0.000; < 0.001	Very highly significant
Reports on external placement	4.13	Strong Support	P = 0.000; < 0.001	Very significant
External examiners reports	2.91	No Support	P = 0.303; > 0.05	Result is insignificant
Students self-assessment	2.99	No Support	P = 0.927; > 0.05	Result is insignificant

Looking at the above table, the result shows strong support for the use of written examinations (mean= 4.26), lecture attendance (mean=4.34), essays, assignments and term paper (4.15) and reports on external placement (mean=4.13). The result indicates weak support for students group projects (3.80); problem solving assignments (mean=3.80)

and quizzes and tests (mean=3.72). The strength of support for lab/studio activities is extremely weak (mean= 2.93) with a very significant difference in the strength of opinion (p=2.57) which means that the criteria is rarely or never used in the students assessment. REM lecturers always use formal exams and other criteria with strong inclination to formal examinations in assessment of students learning.

In the opinion of students, lecturers' use a kind of mixed assessment criteria that leans strongly towards assessment of learning at the neglect of assessment for learning by the course lecturers. Apart from the use of individual problem solving assignments and written assignments like essay, term paper and dissertation which are often used for end of semester or end of term assessment, lecturers rarely use assessment criteria like seminars, presentation, lab and studio reports that tests demonstration of skills.

Item 10: Outcomes/Skillsets reinforced by the REM programme (Appendix 4B)

How strongly has your learning of real estate management equipped you with the following skillsets?

The rationale for this question is to understand the extent to which the REM programme equips the students with professional practice and valuation skills-set/graduate outcomes. In effect it seeks to evaluate the effectiveness of REM education in equipping the students with graduate outcomes and identify any gaps.

Links to Obj. & RQs: Item 10 relates to Obj.2; RQ.2; examination of the LTA practices in the traditional curriculum, learning outcomes and the quality of graduates, and the gaps revealed in practice by the REM graduates. It also relates to OBJ3, RQ3 about how the gaps in teaching relates to gaps in practice and improvements required to address the gaps and make the REM education more effective OBJ4, (RQ.4).

The item was evaluated based on professional practice and valuation skills-sets. The evaluation criteria was on a 5-point likert scale ranging from 'never' for score of 1, poorly for a score of 2, through to very strongly' for a score of 5 and analysed using average opinion index compared to the neutral value (3). Decisions about the strength of support were made using the criteria described in the forgoing section.

The analysis is presented in tables 7.10 and 7.11 below.

Table 7.10: PROFESSIONAL COMPETENCY SKILLS SET (APPENDIX 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
Ability to identify and solve problems	3.68	Weak Support	p= 0.000; < 0.001	Very highly significant
Ability to relate principles to practice	3.88	Weak Support	p= 0.000; < 0.001	Very highly significant
Written communication skills	3.67	Weak Support	p= 0.000; < 0.001	Very highly significant
Oral communication skills	3.73	Weak Support	p= 0.000; < 0.001	Very highly significant
Keeping accurate records of deep insights	3.79	Weak Support	p= 0.000; < 0.001	Very highly significant
Understanding and keeping to the rules of practice	4.09	Strong Support	p= 0.000; < 0.001	Very highly significant
Identify and use data collection tools	3.86	Weak Support	p= 0.000; < 0.001	Very highly significant
Accurate data interpretation	3.94	Weak Support	p= 0.000; < 0.001	Very highly significant
Numeracy and familiarity with calculations	3.96	Weak Support	p= 0.000; < 0.001	Very highly significant
Meticulous and organised in record keeping	3.55	Weak Support	p= 0.000; < 0.001	Very highly significant
Orderly approach to problem solving	3.68	Weak Support	p= 0.000; < 0.001	Very highly significant
Good networking skills	3.85	Weak Support	p= 0.000; < 0.001	Very highly significant
ICT proficiency	3.68	Weak Support	p= 0.000; < 0.001	Very highly significant

The professional practice skillset was evaluated on 13 variables that reflect professional competency skills drawn from NIESV standards. The result shows strong support with very significant difference in the strength of opinions for understanding and keeping to the rules of practice (mean=4.09), and weak support for all the other variables in the list.

The result shows that in the opinion of the REM students the programme fairly equips the students with the basic professional competency skills-set. What this means is that there is no learning gap because that is what the programme expects from the professional practice course designed to expose students to the basic skills for professional competency which can further be developed in practice on graduation from the university.

Valuation skill-set (Appendix 4B)

Valuation skills-set was chosen because valuation is the core REM subject of case study in this research. The item was evaluated using 15 variables drawn from analysis of professional documents as representing expected graduate outcomes from effective learning of valuation in the REM university programme. A detail of the analysis is presented in Table 7.11.

Table 7.11: VALUATION SKILLS SETS (Appendix 2)

Variable Description	Mean Index	Interpretation	P-Value	Inference
Valuation skills, identify clients, purpose and dates of valuation	4.71	Very Strong Support	P = 0.000; < 0.001	Very highly significant
Interpret market forces that affect values	4.00	Strong Support	P = 0.000; < 0.001	Very highly significant
Understands the basis of property comparison	4.35	Strong Support	P = 0.000; < 0.001	Very highly significant
Adequate measurement and sketching of property	4.13	Strong Support	P = 0.000; < 0.001	Very highly significant
Skills for collection of market data	3.93	Weak Support	P = 0.000; < 0.001	Very highly significant
Analysis and interpretation of data	3.99	Weak Support	P = 0.000; < 0.001	Very highly significant
Numeracy and quantitative skills	3.89	Weak Support	P = 0.000; < 0.001	Very highly significant
Applies suitable methods and techniques	3.71	Weak Support	P = 0.000; < 0.001	Very highly significant
Understands the laws that regulates valuation	3.34	Weak Support	P = 0.000; < 0.001	Very highly significant
Differentiates between basis and methods	4.34	Weak Support	P = 0.000; < 0.001	Very highly significant
Can write interim valuation reports	4.07	Strong Support	P = 0.000; < 0.001	Very highly significant
Demonstrates property description skills	4.41	Strong Support	P = 0.000; < 0.001	Very highly significant
Communicates valuation reports to clients	4.44	Strong Support	P = 0.000; < 0.001	Very highly significant
Micro and macro factors integral to property valuation	3.97	Weak Support	P = 0.000; < 0.001	Very highly significant
Compliance to ethical practice	4.16	Strong Support	P = 0.000; < 0.001	Very highly significant

The result shows average opinion index within the range of (mean=4.00+) with p-value (p>0.05) for nine of the variables indicating strong support for those items. The average opinion index for the remaining four variables are within the range of (mean=3.5 to 3.99). The result shows that in the opinion of the REM students the programme strongly equips student with valuation skills-set.

The implication of the result is that the current curriculum adequately equips the students with learning outcomes for effective practice and there should be no gaps in graduate outcomes in that respect.

The result has implications for understanding of how to structure the learning outcomes in the entrepreneurial curriculum using valuation as a case study which is a major contribution to knowledge from this research.

7.5 Summary and conclusion

Similar to the conclusions in Chapter 6, the analyses of student questionnaire items in this chapter revealed the following insights:

- Students' learning strategies are not informed by entrepreneurial competences and do not generally make use of a richer repertoire of learning approaches such as seminars, presentations, tutorials, use of transactional learning objects, experienced guest lecturers, role play and simulations.
- Lecturers, in the opinion of the students, very weakly reinforce entrepreneurial skills and attributes which were gleaned from the literature, for example self-confidence, team working, setting effective objectives, and knowledge and skills to start a new venture.
- Students strongly support most of the contents of entrepreneurship education explored in the research, for example entrepreneurial mindset, managing risks, business literacy, but weakly support important elements that are directly connected to entrepreneurship, such as opportunity recognition and exploitation and negotiation skills.

In general, the results of other item analyses showed that in the opinion of students there is a strong problem of entrepreneurial learning gap in REM education in Nigeria.

The chapter generated a variegated range of suggestions on how to close this gap which will contribute to the curriculum innovation work in later chapters of the thesis.

CHAPTER 8: ANALYSIS OF THE RESEARCH DATA FOR REM PRACTITIONERS

8.1 Introduction

This chapter comprises similar analysis as implemented for academics and students. The aim, again, is to understand REM practitioners' knowledge and opinions about the elements of entrepreneurial education and practice which will improve graduate outcomes in the field. Items and sections in the text below refer to different parts of the research questionnaire.

8.2 Analysis of ordinal scale data (section 2 of research questionnaire, appendix 4C)

Section 2: Analysis of ordinal scale data (Appendix 4C)

REM practitioners were asked to give opinion about gaps revealed by young REM graduates based on their observations of how the young graduates work. The root question goes like this:

"How often do young graduates in your firm demonstrate the technical knowledge and skills-sets for effective real estate surveying and valuation practice"

The rationale for the question was to understand how well the young graduates of REM education are exhibiting the skills-set/graduate outcomes for effective REM practice. This understanding will form the basis for establishing the gaps in graduate outcomes in terms of what is lacking in the young graduates. It will also give insight into the nature of improvement required to close the gaps and make the REM education more effective.

Question 5 is covered under items 5(a-d) analysed in the subsequent sections. The opinions were required on a 5-point Likert scale ranging from "Never" with the least scale value 1, through to "Always" with the highest scale value 5. The survey data was evaluated using test statistics to measure the strength of support and the significance of the difference in opinions. Decisions were made on the basis of the relationship which the average opinion index (mean) bears with the neutral index (3) as already explained in the chapter 5 of this thesis. A mean index less than the neutral value (3) is regarded as *extremely weak or no support,* while mean index above the neutral value are intuitively graded as *weak or strong* depending on how close or how far the mean index of the item is from the neutral value. Decision about a mean index equal to the neutral index is based on the significance of the

difference in the strength of opinion. This analytic approach was applied to all the ordinal scale data from the survey of REM practitioners.

The summary of the analysis result for the REM practitioners' survey, showing item description, overall mean index and test statistic is in Appendix 3.

Item 5a: Practitioners opinion about young graduates' demonstration of technical knowledge integral to the core areas of practice (Appendix 4C)

The rationale for this item is to understand the extent to which the young REM graduates demonstrate overall technical knowledge of the core areas of professional practice and establish any gaps.

Links to research Objectives & RQs: Item 5a is linked to RQ2 which is about examination of gaps in practice revealed by young REM graduates in the employer's organizations. It contributes insight to achieving Obj.4, RQ3 - critical evaluation of insights to establish how the gaps in REM education relates to gaps in practice and curriculum improvements required for closing the gaps. Details of the result are indicated in table 8.1 below.

Table 8.1: YOUNG GRADUATES' DEMONSTRATION OF TECHNICAL KNOWLEDGE OF CORE AREAS OF PRACTICE (demotkcp, Appendix 3)

Item Description	Overall Mean Index	Interpretation	P-Value	Inference
Graduates overall demonstration of technical knowledge of the core practice	4.01	Indicates Strong Support	p= 0.000; < 0.001	Result is very significant

The result shows an average opinion index (mean=4.01) and very significant difference in the strength of opinion (p=.000; <.001) for all the items indicating strong support for all the item

This means that in the opinion of the REM practitioners, the young graduates often demonstrate understanding of the technical knowledge base of the subject matter area of the profession.

The implication of the result is that the REM education adequately equips the graduates with the technical knowledge base of the REM profession and that young graduates do not reveal any significant gap in relation to understanding of the technical knowledge base.

8.3 Practitioners' opinions of graduates' valuation skills

Item 5b: Practitioners opinion about young graduates' demonstration of Valuation skills-set (Appendix 4C)

This question seeks to understand the extent to which young graduates demonstrate skills sets integral to core areas of the professional practice. Valuation skills-set was chosen because valuation is the core REM subject of case study in this research.

Links to research Objectives & RQs: Item 5b is linked to Obj.3, RQ.2 regarding examination of gaps in practice revealed by young graduates; Obj.4 RQ.3, critical evaluation of insights and improvements required to address the gaps. It is also related to Obj.5; RQ.4- nature of the new curriculum, how the curriculum could be implemented in specific core REM courses and demonstration of the new curriculum in a case study (property valuation).

The item was evaluated using 13 variables drawn from analysis of professional documents as representing valuation skill-set. The result is in Table 8.2 below.

Table 8.2: YOUNG GRADUATES DEMONSTRATION OF VALUATION SKILLS-SET (demova, Appendix 3)

Item Description	Overall Mean Index	Interpretation	P-Value	Inference
Ability to identify client, purpose and date of valuation	2.94	Extremely Weak Support	p= .624; > 0.05	Result is insignificant
Ability to interpret the market	3.22	Very Weak Support	p= .111; > 0.05	Result is insignificant
Knows the basis of value/property comparison	3.09	Very Weak Support	p= .527; > 0.05	Result is insignificant
Can measure and sketch property	3.26	Very Weak Support	p= .082; > 0.05	Result is insignificant
Collects reliable valuation data	3.09	Very Weak Support	p= .549; > 0.05	Result is insignificant
Can analyse supporting valuation data and interpret result	3.46	Weak Support	p= .004; < 0.05	Result is significant
Numerate and thinks quantitatively	3.26	Very Weak Support	P= .082; > 0.05	Result is insignificant
Applies suitable methods	2.94	Extremely Weak Support	P= .624; > 0.05	Result is insignificant
Knows the laws that regulate property values	3.26	Very Weak Support	P= .822; > 0.05	Result is insignificant
Can differentiate between basis and methods	3.40	Very Weak Support	P= .008; > 0.05	Result is insignificant
Can describe property accurately	3.09	Very Weak Support	P= .527; > 0.05	Result is insignificant
Ability to describe micro and macro value factors	3.32	Weak Support	P= .031; < 0.05	Result is significant
Complies with ethical standards	3.00	Very Weak Support	P= 1.000; > 0.05	Result is insignificant

Results:

The result shows average opinion index within the range of (mean=3.00 to 3.46) with p-value (p>0.05) for eleven of the variables. The average opinion index for two of the thirteen variables falls below the neutral index (3) with insignificant difference in the strength of opinion of those who support and those who do not support the variables. The overall result shows weak support for all the variables tested under item 5b.

It then means that in the opinion of the REM practitioners the young REM graduates do not effectively demonstrate the valuation skills-set in practice. In effect the young graduates manifest gaps in the demonstration of valuation skills-set.

The nature of the gaps is not necessarily in the sense of the skills being totally absent but in the sense of the young graduates being very deficient in the application of what they *know* because the university education is not effective. This can be explained from the fact that they were adequately equipped with the technical knowledge of the theories and principles of subject matter areas (as already explained in the fore section) but were not effectively taught how to apply the knowledge to identify and solve valuation problems in the society.

The implication of this result is that the traditional curriculum is deficient in equipping students with the skills for effective valuation practice because of the weakness of the learning processes (the LTA strategies). The implication of this for the overall research is the need to improve the REM curriculum by emphasizing entrepreneurial thinking and training the REM lecturers on how to implement improved entrepreneurial curriculum.

8.4 Practitioners' opinion of graduates' professional skills

Item 3c: Practitioners opinion about young graduates' demonstration of professional competency skills-set (Appendix 4C)

The rationale for this question is to understand the extent to which young graduates demonstrate relevant skills for effective performance of professional responsibilities.

The item is linked to Obj.3; RQ2- examination of gaps in practice revealed by young graduates; it contributes insights to establishing how the gaps in REM education relates to gaps in practice and curriculum improvements required to close the gaps (Obj.4, RQ.3).

The item was examined using 17 variables drawn up from critical evaluation of ESVARBON and NIESV professional documents regarding an estate surveyor's mark of competence namely knowledge of the profession, duties to the employer, duties to the clients and ability

to communicate (orally, in writing, graphically). Each variable was rated on a 5-point likert scale as already described. Summary of the result is shown in table 8.3 below.

TABLE 8.3: YOUNG GRADUATES' DEMONSTRATION OF PROFESSIONAL COMPETENCY SKILLS-SET (demopc, APPENDIX 3)

Item Description	Overall Mean Index	Interpretation	P-Value	Inference
Pro. Competency skills: ability to identify and solve problems	3.86	Indicates Weak Support	p= .000; < 0.001	Result is significant
Ability to give background of tasks	3.87	Indicates Weak Support	p= .000; < 0.001	Very significant
Ability to evaluate and analyse methods, time and task results	3.76	Weak Support	p= .000; < 0.001	Very significant
Identify extent of personal involvement in team work	3.49	Very weak Support	p= .000; < 0.001	Very significant
Written communication skills	3.51	Weak Support	p= .000; < 0.001	Very significant
Oral communication skills	3.55	Weak Support	p= .000; < 0.001	Very significant
Ability to analyse practical projects	3.76	Weak Support	p= .000; < 0.001	Very significant
Ability to relate ideas and interpret results	3.87	Weak Support	p= .000; < 0.001	Very significant
Can utilize suitable data collection techniques/tools	3.45	Weak Support	p= .000; < 0.001	Very significant
Numerate and familiar with calculations	3.72	Weak Support	p= .000; < 0.001	Very significant
Meticulous and organized in record keeping	3.71	Weak Support	p= .000; < 0.001	Very significant
Prudence and accountability	3.78	Weak Support	p= .000; < 0.001	Very significant
Time management	3.56	Weak Support	p= .000; < 0.001	Very significant
Orderly approach to problem solving	3.76	Weak Support	p= .000; < 0.001	Very significant
Good networking skills	3.49	Very weak Support	p= .000; < 0.001	Very significant
ICT proficiency	3.51	Weak Support	p= .000; < 0.001	Very significant
Complies with ethical standards	3.45	Very weak Support	p= .000; < 0.001	Very significant

The result shows average opinion index within the range of (mean=3.50 to 3.87) with p-value (p=.000;<.001) for 14 of the variables; and (mean=3.45) for the remaining 3 variables. This indicates weak support for most of the variables and very weak support for three.

This means that in the opinion of the REM practitioners, the young graduates' demonstration of the professional competency skills-set is weak.

The result is not surprising because professional competency skill-set is often regarded as the "entrepreneurial" aspect of the REM knowledge which is often expected to be perfected in the course of on-the-job practice experience in an employer's organization. At the point of finishing from a degree programme, a young graduate is expected to have been armed with the basic skills for professional competency which is to be reinforced in the course of on-the-job informal training to qualify as a professional. To that extent one could say that there is no gap in the young graduates' manifestation of professional competency skill-set since they are not yet qualified professionals. *(Our interpretation of young graduates for the purposes of this research refers to graduates of estate management from Nigerian HEIs who are yet to attain the professional grade of associate of Nigerian Institution of Estate Surveyors and Valuers (ANIVS)*

But then proper strategies for assessment for learning in the university curricula would have enabled the graduates to manifest the skills effectively even before the professional qualification. The issue of how to ensure the adequacy and potency of the training and assessment *for* learning of the skills in an informal setting is not an issue of direct interest for this research.

However, the result has strong implications for the overall aim of improving entrepreneurial education in Nigeria. The curriculum for REM education can be improved by introducing entrepreneurial thinking in the LTA of specific core courses such that by the time a student is leaving the university, he is already sufficiently equipped with the relevant skills-sets for effective entrepreneurial real estate practice.

8.5 Practitioners' opinions about graduates' entrepreneurial skills

Item 5d: Practitioners opinion about young graduates' demonstration of entrepreneurial skills-set (Appendix 4C)

The rationale for this item is to understand the extent to which young graduates demonstrate relevant skills for being entrepreneurial in REM practice

The item is linked to Obj.3; RQ2- examination of gaps in practice revealed by young graduates and how entrepreneurship education addresses the gaps. It is also linked to Obj.4, critical evaluation of insights to establish the links amongst entrepreneurial ideas, REM education and practice and then contributes insight to the overall aim of the research which is achieving effective entrepreneurship education for REM discipline (RQ3& RQ4).

The item was evaluated over 13 variables made up of skills and attributes drawn up from entrepreneurial literature and best practices for either establishing and running an organization entrepreneurially or being entrepreneurial in the employer's organization. Summary of the result is shown in table 8.4 below.

TABLE 8.4: YOUNG GRADUATES' DEMONSTRATION OF ENTREPRENEURIAL SKILLS-SET (APPENDIX 3)

Item Description	Mean Index	Interpretation	P-Value	Inference
Ability to relates confidently with clients	3.51	Weak Support	p= .000; < 0.001	Result is significant
Ability to relates confidently with colleagues and other professionals	3.55	Weak Support	p= .000; < 0.001	Very significant
Ability to directs and motivate groups	3.86	Weak Support	p= .000; < 0.001	Very significant
Ability to solves clients problems and explores opportunities	3.87	Weak Support	p= .000; < 0.001	Very significant
Takes calculated risks	3.76	Weak Support	p= .000; < 0.001	Very significant
Creates efficient and original solutions	3.49	Weak Support	p= .000; < 0.001	Very significant
Makes value adding contacts	3.56	Weak Support	p= .000; < 0.001	Very significant
Works on projects within agreed deadlines	3.55	Weak Support	p= .000; < 0.001	Very significant
Shares ideas to improve quality of solutions	3.76	Weak Support	p= .000; < 0.001	Very significant
Initiative to create new solutions and the drive to work to realize it	3.87	Weak Support	p= .000; < 0.001	Very significant
Recognizes and exploits value adding opportunities	3.41	Weak Support	p= .000; < 0.001	Very significant
Wisdom to seek advice in the process of creating new solutions	3.87	Weak Support	p= .000; < 0.001	Very significant
Knowledge and skills to lead successful ventures that succeed	3.76	Weak Support	p= .000; < 0.001	Very significant

The result shows average opinion index within the range of (mean=3.50 to 3.87) with p-value (p=.000;<.001) for 12 of the 13 variables; and (mean=3.41) for the variable "ability to recognize and exploit value adding opportunities". The result shows weak support for 12 variables and very weak support for ability to recognize and exploit value adding opportunities.

This means that in the opinion of the REM practitioners, the young graduates' demonstration of the entrepreneurial skills-set is weak. In effect the REM young graduates do not adequately manifest entrepreneurial skills. The fact that their demonstration of skills for identifying and exploiting opportunities in practice is very weak shows that they really manifest entrepreneurial gap because this is the basic skill relevant for survival in a competitive work environment.

Overall items 5(a-d) contributes insight to the understanding of the nature of the learning gaps revealed by young REM graduates in the opinion of experienced practitioners. The gaps are in the nature of young graduates not being able to apply what they learned in the university to solve problems in the society effectively. The young graduates have technical knowledge but lack the skills to apply the knowledge. The gaps originate from the way students were taught and should be closed from the curriculum and the LTA strategies.

However, the result has strong implications for the overall aim of the research through curriculum improvement.

8.6 Practitioners' opinions on the need to embed entrepreneurial skills in REM curricula

Item 6: Practitioners' opinion about inculcation of teaching of entrepreneurial skills in the REM curricula (Appendix 4C)

The rationale for item 6 is to understand the REM practitioners' views about teaching entrepreneurship in the university curriculum.

The item is intuitively linked to understanding of how best to embed entrepreneurial skills in the REM curricula to improve the quality of graduates (RQ1). The item is also relevant to the issue of how entrepreneurship education addresses gaps revealed by young graduates (Obj.2) and curriculum improvement (RQ3).

The item was tested on a 5-point likert scale ranging from strongly disagree with a value of 1 to strongly agree (5). Decisions were made based on average opinion index and test of significance as already explained. The analysis is presented in table 8.5 below.

TABLE 8.5: Practitioners' Opinion about whether the teaching of Entrepreneurship Skills should be inculcated into the University Curricula for REM programs (tentcurr, Appendix 3)

Item Description	Mean Index	Interpretation	P-Value	Inference
Inculcate relevant skills for entrepreneurial REM practice into the university curricula	3.30	Weak support	P = .006; > 0.05	Result is insignificant

The result shows an average opinion index (mean=3.30) which is insignificant at p-value (p=.006>0.05).

The result indicates a weak support for the idea of inculcating the teaching of the entrepreneurial skills relevant to real estate surveying practice in the university curricula.

The weak support could be out of ignorance or naivety of the benefit of entrepreneurial training for our university student to the professional practice. Real estate surveying and valuation as a professional discipline is generally perceived as being innately entrepreneurial and as such some professionals may not see any need to talk about explicitly inculcating and teaching what is already perceived to be there. But inculcating entrepreneurial skills in the curricula will make it clear to the educators that entrepreneurial skills-set is among the learning/graduate outcomes that must be achieved. The individual real estate surveying firms and the profession stands to gain a lot by having graduates

trained from entrepreneurial curricula. For one, such graduates are equipped and motivated to think and act entrepreneurially because they developed higher order skills that meet the specific needs of the real estate surveying practice.

The result has implication for creating awareness about the benefits of having entrepreneurial REM graduates from the university programs in Nigeria.

8.7 Summary and conclusion

Similar to the conclusions in Chapters 6 and 7, the analyses of practitioners' questionnaire items in this chapter revealed the following insights:

- Practitioners strongly feel that young REM graduates demonstrate knowledge of the technical knowledge of core REM practice areas ($p = 0.00$).

- They, however, very weakly support the view that young graduates demonstrate good enough knowledge of valuation skills. The evidence for this is that for almost all the 13 variables explored under valuation skills, the average opinion indices are very close to the neutral value of 3.00 and are insignificant (see Table 8.2 for the p-values). This justifies the choice of Property Valuation as a case study on which to base the planned curriculum innovations in the research in the sense that a curriculum that embeds entrepreneurial skills in such a difficult core course would be more easily adapted to other REM courses than would be the case otherwise.

- Practitioners also show very weak support for young graduates' demonstration of professional competency skills ($p = 0.00 < 0.01$). This reinforces the conclusion that the graduates manifest both entrepreneurial and related professional skills. Indeed, the practitioners confirmed this view in the equally weak support for the entrepreneurial skills being evident in young graduates' work ($p = 0.00 < 0.01$).

- Moreover, practitioners do not support the view that entrepreneurial skills should be taught within REM curricula, which shows that they may wrongly understand such skills as also covered within the professional practice element of their studies.

In general, the results showed that in the opinion of practitioners there is a strong problem of entrepreneurial learning gap in REM education in Nigeria and also of inadequate appreciation on the part of the practitioners themselves of what entrepreneurial skills entail beyond professional practice. This shows why this research is important for a baseline understanding of entrepreneurial REM education.

CHAPTER 9: CRITICAL DISCUSSION OF RESULTS

9.1 Introduction

In this chapter we bring together the insights from the item analysis in chapters 6, 7,and 8 in other to link those results to the research questions and the associated objectives. This enables the researcher to examine what form of new knowledge comes out of the research in relation to research questions and objectives. In other words we want to be able to say what we now know about the state of knowledge in in REM education in relation to the students' entrepreneurial development and practices. The main objectives are actually explored in more details through the research questions (RQs). What this means is that we are positioning the discussion of the result on the RQs and linking insights to the objectives that they touch.

In order to do this we rely on methodological framework already summarised in chapter 4, particularly the linkage analysis given in Figure 9.1 and Tables 9.1and 9.2 below, which actually enables us to see all the items in the research instruments that relate to different research questions and objectives.

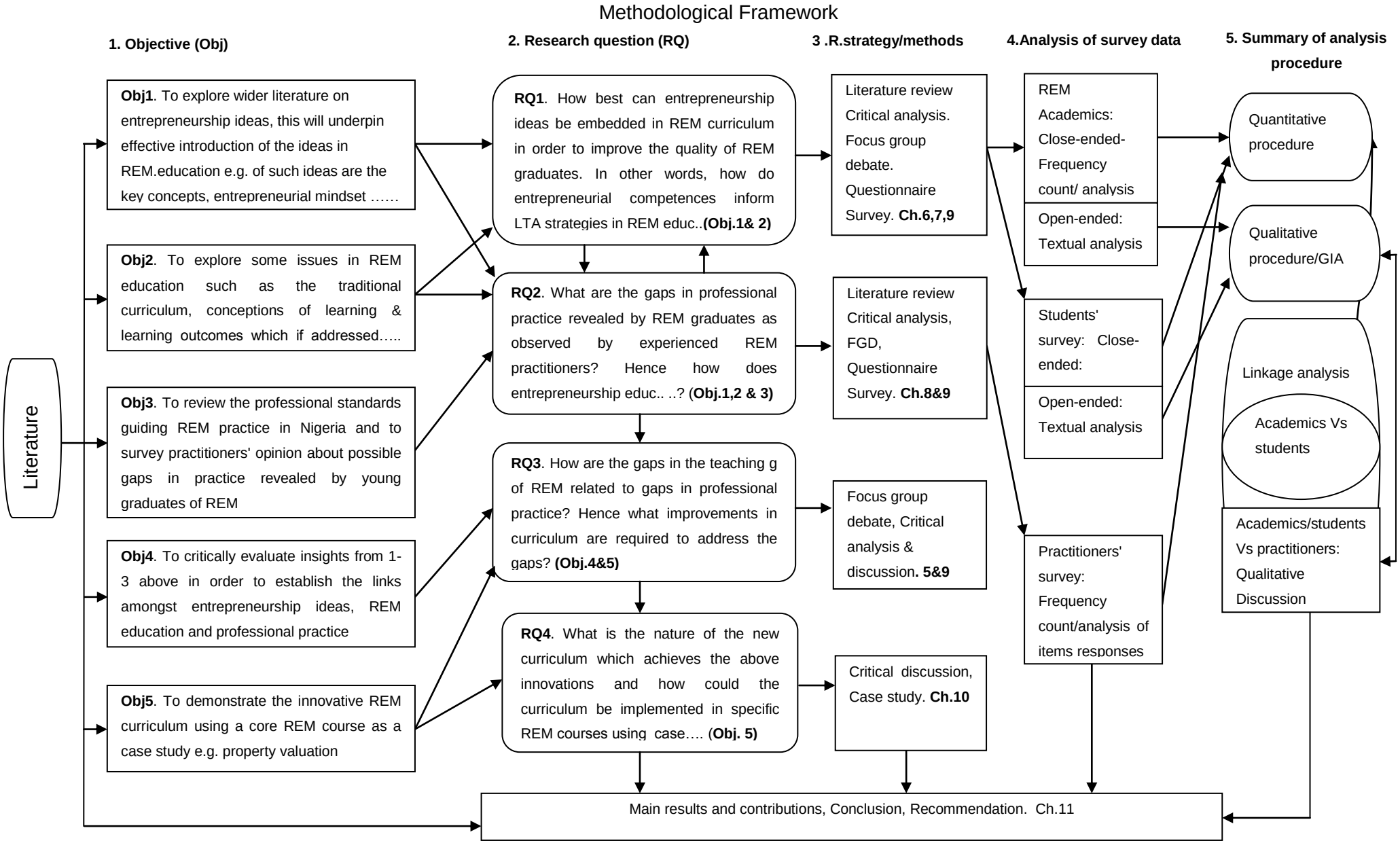


Fig. 4.1 Overall methodological framework for the research with links among the research objectives, questions, strategy, analysis procedure, key issues and their thesis chapter

Table 9.1 below depicts the Item Linkage matrix of the survey of REM academics and students as already presented in Chapter 4 of this thesis.

Table 9.1 Matrix of the relationship between each questionnaire item with the research questions and objectives

Questionnaire item	**OBJ1**	**RQ1**	**OBJ2**	**RQ2**	**OB3**	**RQ3**	**OBJ4**	**RQ4**	**OBJ5**
Section A									
1a			OA						
1b			OA			QA		QA	
1c				QA				QA	OA
1d	OA	QA				QA		QA	
Section B									
1			**OA,OS**	**QA,QS***	**OS**	**QA,QS**	**OA,OS**		**OA**
2	**OA**	**QA**	**OA, OS****	**QA,QS**	**OS**	**QA, QS**	**OA,OS**	**QA, QS**	**OA,OS**
3	**OA, OS**	**QA,QS**	**OA,OS**	**QS**		**QA, QS**	**OA,OS**	**QA,QS**	**OA,OS**
4	**OA, OS**	**QA, QS**				**QA**	**OA**	**QA,QS**	**OA,OS**
5	**OA, OS**	**QA, QS**	**OS**			**QS,QA**	**OS,OA**	**QA,QS**	**OA**
6	**OS**	**QA,QS**	**OA,OS**			**QA,QS**	**OA,OS**	**QS,QA**	**QS,OA**
7	**OA, OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**		
8	**OS**	**QS**	**OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
9			**OA,OS**	**QS**		**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**
10			**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	**OA,OS**	**QA,QS**	

* *QA stands for relationship of questionnaire item from Academics survey (A) with the research Question (Q); QS stands for relationship of item from the Students survey (S) with the research Questions (Q).*

***Likewise, OA stands for relationship of questionnaire item from Academics survey (A) with the research Objectives (O); OS stands for relationship of item from the Students survey (S) with the research Objectives (O).*

Table 9.2: *Matrix of relationships between each item from the practitioners' questionnaire survey with the research questions and objectives*

Q. ITEMS	OBJ1	RQ1	OBJ2	RQ2	OBJ3	RQ3	OBJ4	RQ4	OBJ5	Result
1										
2				QP*	OP**	QP	OP			
3				QP	OP	QP	OP			
4				QP	OP	QP	OP			
5a				QP	OP	QP	OP	QP	OP	
5b				QP	OP	QP	OP	QP	OP	
5c				QP	OP	QP	OP	QP	OP	
5d				QP	OP	QP	OP	QP	OP	
6		QP	OP	QP	OP	QP	OP	QP	OP	

**QP stands for relationship of questionnaire item from Practitioners' survey (P) with the Research Questions Q); **OP stands for relationship of item from the Practitioners' survey (P) with the research Objectives (O).*

9.2 Result related to RQ1 (Obj.1&2)

Research question 1: *How best can entrepreneurship ideas be embedded in REM curriculum in order to improve the quality of REM graduates? In other words, how do entrepreneurial competencies inform LTA strategies in REM education? (Objectives 1 and 2).*

The focus of this section is to explore how entrepreneurial competences inform the current learning, teaching and assessment (LTA) practices in the traditional curriculum with a view to understanding the gaps and how best to embed entrepreneurship ideas in REM curriculum to make entrepreneurship education more effective.

The critical insight from the analysis of the survey data items related to RQ1 is presented in Table 9.3 below.

Table 9.3: Research survey results related to Research Question 1 (RQ1)

Item	**Results related to RQ1 (Obj.1&2):**
1d: Course category of entrepreneurship	• Entrepreneurship education is grouped in the compulsory general studies course managed by each university's Centre for Entrepreneurship studies Unit. • The content and the teaching of entrepreneurship involve generic concepts taught to all the students and not specific to any discipline. • This kind of arrangement will not enable REM students to learn how to be entrepreneurial in the context of REM discipline because the strategies cannot use examples specifically related to REM discipline.
Section 2: Item 1- Conceptions of learning	• REM lecturers conceptualize learning from the broad based perspectives that do emphasize the technical knowledge of the subject matter as well as the application of such knowledge. • Students conceptualize learning from the all involving perspective of acquisition of technical knowledge, understanding of fact, skills and methods and applying same in solving societal problems. • The conceptions of learning in the REM support entrepreneurial tendencies and embedding of entrepreneurship.
2: Teaching methods	• REM lecturers mostly rely on the use of lecture and related methods in teaching and rarely use mixed methods that encourage experiential learning. The teaching strategies tend to **develop** the learning of principles and theories of a subject matter area at the expense of developing practical skills. • Students perception of the methods used by REM lecturers indicate that lecture methods, reports and essay assignments are the most popular methods; problem based methods are sometimes used while tutorials, field trips, use of transactional objects, guest entrepreneurs, role playing and some other strategies that encourage entrepreneurial learning are rarely or never used by REM lecturers in their teaching.
Implication: The teaching practices in the traditional curriculum are not informed by entrepreneurial competences. There is need to develop a discipline based entrepreneurial curriculum and deepen the use of teaching strategies and methods that encourage experiential learning.	
3. Reinforced skills and attributes TO RQ3	• Lecturers are not effectively reinforcing entrepreneurial skills in the teaching of their respective courses. • Students' learning of entrepreneurial skills is not strongly reinforced in the teaching and learning of REM courses. • In the opinion of the REM practitioners, young graduates manifest entrepreneurial skills gaps in practice.
Implication: The LTA practices in the traditional REM curriculum are not informed by entrepreneurial competences and the young graduates manifest such gaps in practice. This presents the need to reinforce the teaching of entrepreneurial skills and attributes in specific core REM courses to deepen the learning of the skills and close the gaps. Closing the gaps from the curriculum will automatically close the gaps in practice since the gap in practice is a reflection of learning gaps in the curriculum.	
4. Preferred approach to entrepreneurship education	• Lecturers prefer mixed approach whereby the generic course at the centre is supported by a stand-alone course introduced into REM curriculum. • Students prefer mixed approach whereby generic concepts taught by the institutions' centre for entrepreneurship education is reinforced in specific core REM courses at the department.

Implication: Lecturers and students prefer mixed approach but they differ in the strategies that should be adopted in implementing the mixed approach. Students prefer an approach that enables them to learn how to be entrepreneurial in the context of real estate management discipline. Their preference gives an indication of how best to embed entrepreneurship in the REM curriculum – a mixed approach whereby the concepts learned in the generic entrepreneurship course are reinforced in the teaching of specific REM courses. The focus group experts debate argue that the best approach is to embed entrepreneurship course by course (in every core REM course) to make the learning of entrepreneurial skills in the context of REM discipline more effective. This research will tend to adopt the approach suggested by the focus groups which by their composition as a team of experts in pedagogy, REM education and practice are well knowledgeable and experienced in the area.	
5. Ideas and contents that should be taught in a typical entrepreneurial curriculum	• Lecturers and students strongly want the following ideas and contents to be included in a typical entrepreneurial curriculum for REM and taught in the context of REM: how to develop the mindset, skills and attributes; self-efficacy and leadership; business plan, venture capital; business literacy, time management, how to discover and exploit opportunities for entrepreneurship.
Implication: These ideas and contents are not explicitly taught in the current REM curriculum and need to be surfaced in an improved curriculum. The best strategy for the mixed approach is to enable the teaching of the generic ideas and contents in a separate course and then reinforcing the teaching of the skills in specific REM core courses.	
6. Who should teach entrepreneurship to REM students	• REM lecturers seem to be quite indifferent about who they would prefer to teach entrepreneurship. • Unlike the lecturers, the students are quite clear about who they would prefer to teach. Students prefer teacher options that will provide a mix of knowledge and give a handle on how to be entrepreneurial in real estate surveying practice.
Implication: In effect students prefer the kind of teachers and teaching that will equip them with a mix of knowledge and skills for effective entrepreneurial REM education and practice. The result has implication for curriculum improvements that inculcate a mixed approach, mixed methods and variety of resource persons to communicate the different strands of skills more efficiently. Such a combined approach places the course lecturer as a key facilitator to involve the relevant resource persons that could better communicate the required entrepreneurial skills.	
7. Overall, are the way students taught in the REM programme informed by entrepreneurial competences?	• The real estate surveying profession is inherently entrepreneurial but the teaching and learning practices in the programme do not effectively inform entrepreneurial competences. • There is the need to emphasize LTA practices that support entrepreneurial learning in a new curriculum so that students can be taught how to be entrepreneurial in the context of REM from the curriculum.
8. Assessment criteria in REM curricula	• The assessment criteria in the curriculum reflect a kind of mixed assessment criteria that leans strongly towards assessment of learning at the neglect of assessment for students learning by the course lecturers. The current learning assessment practices in the traditional curriculum are effective in assessment *of* students understanding of theories and principles but deficient in assessment *for* learning/hands-on.
Implication: These pedagogical gaps present the need to inculcate the use of assessment strategies like group project work, lab and studio reports in the new curriculum in order to deepen the assessment for learning.	

Summary of new knowledge about how best to embed entrepreneurship education in the REM curriculum

The new knowledge that surface from our critical discussion results in this section (RQ1 (Obj.1&2) relate to 'LTA strategies', 'competences' and 'embedding'.

The learning, teaching and assessment (LTA) strategies in the traditional REM curricula are not informed by entrepreneurial competences on the part of lecturers and do not adequately support the development of such competences in the students. The current practice is that the universities adopt a top-down generic approach to entrepreneurship education. The approach does not encourage students' learning of entrepreneurial skills in the context of real estate management. This can be achieved by adopting a discipline-based approach to entrepreneurship education to embed the entrepreneurial skills in the REM curriculum.

The focus group expert debate surfaced two forms of embedding entrepreneurship in a discipline based entrepreneurship education. One option is to introduce a stand-alone course across the REM programme of study such that every student in the programme must register and pass such course before graduation. Another option is to introduce the teaching of the entrepreneurial skills and attributes within the core courses in the programme. In this research we refer to the term embedding in relation to these two options, as opposed to a generic course offered to all university students outside the REM program for example at the Centres for Entrepreneurship Studies. In effect the term embedding entrepreneurship education in the context of this research refers to introducing the teaching of entrepreneurial skills both through a single course within the context of REM programmes and also as appropriate in the core REM courses. The latter is intended to continually reinforce the entrepreneurial concepts learnt in the main course through concrete examples in the core courses.

Thus, the term embedding entrepreneurship education in REM curriculum goes beyond the stand-alone course that is offered and taught by the centre for entrepreneurship education to embrace the teaching of the skills within each core course in real estate management programme.

The consensus among the experts is that the pathways to embedding should be looking at an approach whereby the overall learning experiences of the student comprising the knowledge, skills and attributes of entrepreneurship are well developed in the context of the students' discipline of study in the university (Egwuatu, Udo & Ezepue, 2010). This can be achieved by introducing a discipline based stand-alone course and embedding the teaching of discipline-based entrepreneurial skills course by course (in the core REM courses) to

support a generic course served by the centre for entrepreneurship education, which teaches general principles of entrepreneurship.

9.3 Results related to RQ2 (Obj.1, 2&3)

What are the gaps in professional practice revealed by REM graduates as observed by experienced REM practitioners? What are the links between entrepreneurship attributes and professional standards in REM practice? Hence, how does entrepreneurship education address those gaps? (Objectives 1, 2 and 3).

The RQ2 examines the gaps revealed in practice by young REM graduates and touches on gaps in REM education and how entrepreneurship education addresses the gaps through its links to Objectives 1, 2 & 3. The summary of gaps in REM education and gaps revealed by young graduates in practice are presented in tables 9.4 and 9.5 below.

Table 9.4: Summary of gaps in REM Education

Item	Results related to RQ2 (Obj. 1, 2 &3)
1a (Academics): NUC Standards currently in use	• The NUC BMAS 2007 is designed to be outcome-based and provides for entrepreneurship education. Most of the university curricula are still prescriptive and content-based and do not have entrepreneurial provisions. • There are gaps between the NUC standards and university curricula that implement the standards. The implication of the result is that the traditional curricula for REM education is not ideal for effective entrepreneurship education for REM students and requires improvements to make it more entrepreneurial.
1b: Qualifications of REM academics	• Most REM Lecturers are subject matter experts without any teaching qualification and may reflect gaps in delivery of entrepreneurial curriculum. This presents the need for training REM lecturers in order to equip them with skills for effective interpretation and delivery of entrepreneurial curriculum.
1d: Course category of entrepreneurship education	• Entrepreneurship education is General Studies courses controlled and managed by the university's centre for entrepreneurship education for all disciplines or in some departments by lecturers trained by the centre. • As discussed in the previous section in this chapter the arrangement, does not enable students to develop entrepreneurial thinking in the context of the discipline of study.
Section 2- academics and students. Item 1: Conceptions of learning	• As already discussed in the previous section in this chapter, the conceptions of learning in REM discipline support entrepreneurial learning and does not directly contribute to gaps in REM education. However, a closer look at how the learning is implemented reveals *intrinsic* entrepreneurial learning gap that has more to do with the understanding and interpretation of the conceptions. For instance, the concept of learning as acquisition and application of facts seem to be understood from the angle of acquisition more facts about existing knowledge rather than producing new knowledge.
2: Teaching Methods	• The result shows that teaching methods and practices adopted by REM lecturers do not reflect mixed methods that encourage experiential learning. The teaching strategies tend to **develop** the learning of principles and theories of a subject matter area at the expense of developing practical and entrepreneurial skills. • The students also perceive from the way they are taught that the methods used by their teachers contribute to entrepreneurial learning gaps. The learning strategies focus much on lectures, essays and reports which lead to learning of many contents to the neglect of experiential strategies that enable student's understanding of what to do with the knowledge and actually demonstrating how to do it. • The use of such teaching practices contributes to the learning gaps that relate to theoretical gaps in learning explored in Cox and Light (2005). In a nutshell the five gaps between ability to recall, understand, wanting to use, actually using/doing and ongoing change. The gaps are inherent in the way students a taught and present in their inability to apply their knowledge of concepts to real life situations effectively.
3: Reinforced skills and attributes	• The result shows that the REM lecturers are not effectively reinforcing entrepreneurial skills in the teaching of their respective courses. • Implication of the result for RQ2 is that there is an entrepreneurial learning gap that needs to be closed.

	• The gap could be closed by explicitly specifying the entrepreneurial skills and attributes among the learning outcomes in the core REM courses to guide the lecturers on the need to deepen the learning of such skills in the teaching. Again this presents the need to train the lecturers on the rudiments of teaching/implementing the improved and entrepreneurial REM curriculum.
7. How does the teaching of REM enable students become entrepreneurial on graduation	• The real estate surveying profession is inherently entrepreneurial but the training in the university programme is not effectively entrepreneurial. This implies a possible gap between the standards for REM education and the university curricula that implement the programme. The gaps are in the nature of the university curricula for REM programmes being deficient in **entrepreneurial contents** and **weak in delivery** of entrepreneurial training. • This presents the need for the review of the traditional curricula for REM education from 1997 MAS that is implemented by most universities to 2007 BMAS to integrate entrepreneurial contents. Even the BMAS 2007 still needs to be improved to bring it to the current international best practice standards. Furthermore, there is need to implement a discipline based entrepreneurship education to enable the training of students on how to be entrepreneurial in the context of REM discipline
9. Assessment practices	• In relation to RQ2 the assessment criteria reflects a gap in assessment of learning outcomes which tends to assess students learning of contents and less of what the learner can do with the knowledge. The gap could emanate from the curriculum design that does not explicitly specify the learning outcomes thereby leading to poor interpretation and implementation by emphasizing on end term/semester examinations as a means of performance assessment. This has implication for also emphasizing students' performance in coursework activities through lab/studio reports, problem solving assignments, oral presentations, students' self-assessments etc. in the assessment of learning outcomes.
10. Learning/ Graduate outcomes from effective REM education	• The result shows that the skills-set required by the standards for REM education in Nigeria universities are not adequately reinforced in the implementation of the REM education. In effect there is a gap which is in the nature of a difference between the set standards (NUC BMAS) and the LTA practices in the traditional curriculum that implements the standards. • The implication of the result is that the students graduating from the programme are not adequately equipped to manifest graduate outcomes expected from effective REM education. For instance the REM graduates from the traditional curriculum are deficient in entrepreneurial skills-set, business enterprise management and ICT skills relevant to real estate practice in the world of work. • In the opinion of the REM practitioners the young REM graduates do not effectively demonstrate the valuation skills-set in practice. The young graduates' demonstration of the entrepreneurial skills-set is also weak. In effect the REM young graduates manifest gaps in demonstration of valuation and entrepreneurial skills-sets.

Our discussion in this section brings out the learning gaps in the REM education in the Nigerian universities. The gaps are in the nature of gaps in the implementation of standards for REM education (between the NUC benchmark standards) and the university curricula that implement the standards on the one hand and the gaps in the delivery of the curriculum (the LTA practices). The BMAS 2007 provides for entrepreneurial contents but most REM programmes are still operating with the 1997 MAS which have no entrepreneurial provisions. The result is that the traditional curricula lack entrepreneurial contents. The lecturers LTA practices in the traditional REM curriculum contribute to learning gaps.

The gaps relate to the five theoretical learning gaps explored in Cox and Light (2005) as gaps that can exist in any learning discipline. The gaps manifest as between ability to recall concepts and ability to understand, wanting to use the knowledge, actually applying the knowledge and ongoing change. Any learning discipline that manifests the gaps cannot achieve the goals of effective education and produce graduates that deliver expected graduate outcomes because the learning is not effective. In real estate management the gap manifests more as wanting to, actually doing and ongoing change. These gaps relate to the manifestation of the entrepreneurial learning gap. If students are not able to link their knowledge to real life situations and effectively use their knowledge to find solutions to societal problems, then they are not entrepreneurial and cannot create wealth with the knowledge gained from the university.

The theoretical learning gaps that can exist in any discipline map entrepreneurial path way and can be closed by making the curriculum entrepreneurial. This idea will be explored in fuller details in Chapter 10 to surface the nature of innovative curriculum that will achieve the desired results by closing the learning gaps.

Table 9.5: Summary of gaps revealed in practice by young graduates as shown by analysis of the Practitioners' Survey

Item	Results related to RQ2
5b. Demonstration of valuation skills-set	• In the opinion of the REM practitioners the young REM graduates manifest gaps in the demonstration of valuation skills-set even though the REM education equips students with the technical knowledge base of the theories and principles of valuation as indicated in the students' survey. Young graduates are very weak in identification of clients, purpose and date of valuation, the basis of value and property comparison, collection of reliable valuation data, description of property, application of suitable valuation methods and compliance with ethical standards. • The nature of the gaps is not necessarily in the sense of the skills being totally absent but in the sense of the young graduates being very deficient in the application of what they *know*. • The result therefore has implications for curriculum improvement by introducing pedagogic innovations that achieve a balance of effective knowledge-based and skills-based teaching and learning to enable students begin to practice what they learn within the curriculum. • This can be achieved through effective entrepreneurship education where the teaching of entrepreneurial skills is inculcated in the core REM courses like valuation to enable students learn the skills while still in school to be able to manifest the skills on graduation. Deficiency in valuation skills set will not enable young graduates to actualize what *they know* in finding solutions to valuation problems in the society. This presents the need to improve the curriculum by making the teaching of valuation which is a core REM course to be more entrepreneurial. This remark applies to other core REM courses and is explored further in the case study presented in Chapter 10 of the thesis.
5c. Demonstration of professional competency skills-set	• In the opinion of the REM practitioners, the young graduates of REM do not adequately meet the standards for professional practice. Their demonstration of professional competency skills-set is weak. • Professional competency skill-set is often regarded as the "entrepreneurial" aspect of the REM knowledge which is usually expected to be perfected in the course of on-the-job practice experience in an employer's organisation. To that extent one may argue that the graduates are manifesting the gaps because they are not yet qualified REM practitioners. • But then proper strategies for assessment for learning in the university curricula would have enabled the graduates to manifest the skills to a large extent even before their professional qualification.
5d. Demonstration of entrepreneurial skills-set	• In the opinion of the REM practitioners, the young graduates' demonstration of the entrepreneurial skills-set is weak. In effect the REM young graduates manifest gaps in demonstration of entrepreneurial skills-set. • The implications of the result for RQ2 is to close the gaps by improving the curriculum to make it entrepreneurial and introducing mixed pedagogies to make the LTA practices more entrepreneurial. These ideas are further explored in the case study chapter.
6. Inculcating entrepreneurial skills relevant to REM practice in the university curricula	• The REM practitioners are indifferent about whether or not entrepreneurial skills for practice should be inculcated into the REM curricula. The reason could be because real estate surveying and valuation as a professional discipline is generally perceived as being innately entrepreneurial and there is no need to talk about explicitly inculcating and teaching what is already perceived to be there. It is left for the REM lecturers to surface the entrepreneurial nature of the REM profession in the teaching of the programme.

Overall, sections 9.4 and 9.5 (items 5a-d and 6) contribute insights to the understanding of the nature of the gaps in REM education and graduate outcomes revealed by young graduates in practice as observed by experienced practitioners. It also contributes to understanding of whether the teaching of entrepreneurial skills for REM professional practice should be inculcated in the university curricula for REM programmes in Nigeria. The gaps are mainly curriculum related in terms of the design and delivery of the curriculum for REM education. The content analysis of the traditional curricula for REM education and the current LTA practices reveal entrepreneurial learning gap.

The gaps manifested by young graduates in their employers' organisation as revealed by the Practitioners' survey are reflection of the gap in the REM education. For instance, young graduates manifest gaps in their ability to apply what they learned in the university to solve problems in the society entrepreneurially, which is a direct reflection of the entrepreneurial learning gap in the university curriculum. These gaps will be further explored in Chapter 10 to bring out how the gaps could be effectively closed.

9.4 Research Question 3 (Obj. 4&5)

Research Question3: How are gaps in the teaching and learning of REM related to identified gaps in professional practice? Hence, what improvements in the curriculum are required to address the gaps? (Objectives 4 and 5)

The key issue addressed by this question is the understanding of how the gaps in teaching and learning of REM (REM education) relate to gaps in professional practice. This understanding will give insight into the curriculum improvements required to close the gaps and make REM education more effective.

Table 9.6: Relating the gaps in learning with gaps in practice and curriculum improvements required

Item	**Summary of gaps in REM education**	**How they relate to identified gaps in practice**	**Improvements in the curriculum required to address the gaps**
Academic standards implemented by university curricula	The NUC BMAS is designed to be outcome based and entrepreneurial but most university curricula are still prescriptive, content-based and are not entrepreneurial.	Young REM graduates are not entrepreneurial in practice	Innovate the REM curricula to current standards to make them outcome-based and entrepreneurial.
Qualification of REM lecturers	REM lecturers are subject matter experts without teaching qualification. They manifest gaps in their LTA practices in the curriculum delivery.	Most gaps revealed in practice by young graduates are reflections of how they were taught in the university	This has implication for training the REM lecturers to understand a better way of constructing learning outcomes and delivering entrepreneurial curriculum
Learning conception	Conception of entrepreneurship education from the generic perspective of training on how to set up businesses.	Young graduates do not have entrepreneurial mindset and skills for being entrepreneurial in the context of the discipline of study in the university.	Embed the teaching of entrepreneurial skills in the REM curricula to support the generic course offered by the university's entrepreneurship unit.
Teaching methods	Lecture is the most popular method of teaching in the traditional REM curriculum. Lecturers' teaching methods and practices contribute to learning gaps. The gap is in the nature of gap between "understanding and ability" (Cox and Light, 2005). It also contributes to entrepreneurial learning gap because the skills are not reinforced in the teaching and learning of core REM courses.	Young graduates are deficient in the application of the theories and principles that *they know* from the REM education e.g. they manifest gaps in the practical application of knowledge from the university in solving real life problems. The entrepreneurial learning gap in the traditional curriculum relates to entrepreneurial skills gap revealed in practice by young graduates.	Introduce the use of mixed and variety of methods like problem based method, tutorials, seminars/workshops and presentation, field trips, site visits, use of transactional objects, guest entrepreneurs in real estate surveying practice, role playing and simulations of real life contexts, case studies, relevant and well explained case examples, industry placements and work experiences, etc. in the new curriculum to make the teaching and learning more experiential and entrepreneurial. *This has implication for training of REM lecturers on how to combine lecture method with the experiential teaching and learning methods for effective delivery of the new curriculum.*
Gaps in the assessment of learning	Assessment Strategy that emphasis on assessment *of* learning at the expense of assessment *for* learning reveals a	This gap in learning relates to gaps in the young graduates' application of the knowledge of theories and principles	Inculcate mixed assessment strategies that enable the assessment *of* knowledge of the subject matter as well as assessment *for* learning which tests student learning of

assessment	learning gap in measuring students' *ability to perform practical tasks and achieve practical solution to problems.* The gap can progress from poor assessment of the learner's basic ability to recall to ability to apply the knowledge (Cox and Light, 2005).	learned in the programme to solve practical real estate surveying problems in the society. For instance the same young graduates who strongly demonstrate technical knowledge of the subject areas are weak in demonstration of valuation skill set in the work environment.	practical experiences. This can be achieved by introducing assessment criteria like lab/studio reports, presentations (written and oral), group and individual project reports, students self -assessment in reflexive reports, problem solving assignments and timely submission etc.
Entrepreneurial learning gap in the implementation of the REM programme	Real estate surveying profession is inherently entrepreneurial but the training of students in the university programme is not effectively entrepreneurial. Entrepreneurial skills and attributes are not strongly reinforced in the teaching of core REM courses.	This relates to identified gaps in young graduates' demonstration of professional competency skills-set and entrepreneurial mindset, skills and attributes in the professional practice.	Adopt discipline based entrepreneurial education for REM, and introduce the teaching of entrepreneurial mindset and skills/attributes relevant to real estate surveying practice in the university programme. Embed the teaching of entrepreneurial skills/attributes in the core REM courses and specify the entrepreneurial skills among the key learning outcomes to be achieved from the teaching in order to strengthen the learning of skills/attributes in the context of REM discipline. Introduce the use of mixed methods and variety of resource persons in the teaching to make the LTA practices in the delivery of the curriculum more entrepreneurial. *This improvement has implication for training the REM lecturers on how best to implement entrepreneurial curriculum.*
The curriculum lacks entrepreneurial ideas and contents	Generic entrepreneurial ideas and contents relevant for effective REM education is lacking in the curriculum.	The fact that the ideas are not taught in the context of REM means that students graduating from the programme carry the entrepreneurial deficiency to professional practice.	Adopt a mixed approach to entrepreneurial education to enable ideas from the generic entrepreneurial concepts to be structured into the REM curricula. *This innovation has implication for training the course lecturers to enable effective implementation of the discipline based entrepreneurial curriculum*

Gaps in the overall programme standards and implementation	The entrepreneurial learning gap between what the NUC benchmark academic standards (BMAS 2007) provides and what is implemented by the university curricula relates to the entrepreneurial gaps in the LTA practices in the curriculum.	Entrepreneurial learning gap is related to the gaps in outcomes revealed by young graduates in professional practice. For instance, young REM graduates manifest entrepreneurial skills gap, professional competency skills gap and gaps in identifying and solving valuation problems in practice.	Innovate the university curriculum by adopting a mixed approach to entrepreneurship education; embed the teaching of entrepreneurial skills in the discipline curriculum and making the LTA practices more entrepreneurial to close the gaps. Inculcate the teaching of entrepreneurial skills relevant to professional practice in the curriculum to enable the teaching of such skills while students are in the university to be reinforced in the employers' organisation when they graduate.

9.5 Results related to RQ4 (Obj.5)

Research question 4: What is the nature of the new curriculum which achieves the above innovations and how could the curriculum be implemented in specific REM courses, using a case study of a core course? (Objective 5).

The key issue in this section is an outline of the theoretical model that exemplifies the new curriculum i.e. an outline of a new curriculum which if implemented solves the problems of REM education. We summarise the insightful ideas that depict the nature of the new curriculum and demonstrate how the new curriculum could be implemented in a case study of core REM course in the next chapter. The nature of the new curriculum is outlined below and will be explored further in Chapter 10.

Table 9.7: Nature of the new curriculum that achieves entrepreneurial innovations

Item	Result related to RQ4
Overall Philosophy and Objective	The overall aim of developing the new curriculum is to produce REM graduates well equipped with knowledge and skills for being entrepreneurial in REM practice. The objective is to embed/bring entrepreneurship education into the mainstream of the REM curriculum to make the REM education more entrepreneurial.
Approach to entrepreneurship education	Mixed approach to entrepreneurship education where the discipline based approach supports the generic course(s) taught by the university's entrepreneurship education unit. The *learning about* courses which are designed to provide students with knowledge and theoretical underpinnings of entrepreneurship and related concepts are covered under the generic courses. The *learning for* themes which focus on creating entrepreneurial mindsets, skills and attributes are embedded in REM curriculum and reinforced in the teaching of specific core REM courses.
Ideas and contents that should be taught	Ideas and contents that should be reinforced in the new curriculum • How to develop entrepreneurial mindset. • Developing real estate business plan • Sources of real estate venture capital • Social capital and networking skills • How to discover and exploit wealth creating opportunities • How to set up and grow real estate business venture etc.
Aspects of entrepreneurial mindset, skills and attributes that should be reinforced in core courses	A curriculum that specifies entrepreneurial skills and attributes among the learning outcomes to strengthen the learning of entrepreneurial skills: • How to relate confidently with clients, colleagues and other professionals • Understanding of one's own direction and motivation • Approaching and solving problems from new perspectives • Perseverance in uncertainty, ambiguity, risk and failure in attempt to improve • Self-discipline and personal organisation • Creativity skills • Working strategically to achieve deadlines • Team working skills • Setting and achieving targets • Recognizing and exploiting opportunities • Having the wisdom to seek advice when needed • Skills to start new REM ventures and succeed • Personal values: ethical, social and environmental awareness
Teaching methods	This will require mixed methods including the use of lectures and practical activities that inform experiential learning such as: Tutorials, seminars, oral/written presentations, field trips, site visits, role playing, use of games/transitional objects and problem-based methods like case studies and real problem cases from real estate surveying practice.

Who should teach entrepreneurial curriculum?	Effective teaching of entrepreneurial curriculum requires mixed approach, mixed methods and variety of resource personnel to communicate the different strands of skills efficiently. The following can teach: Core REM course lecturers • Experienced Estate Surveyors and Valuers in professional practice • Lecturers trained by the University's Entrepreneurship Studies Centre • Guest entrepreneur/successful business persons from any industry. • Elective course lecturers from related departments (in the faculty of environmental studies) and from the business faculty. Among all these, the course lecturer as the key facilitator should strategically involve specific resource persons where they best communicate or surface the desired skills more effectively.
Learning Assessment	In addition to end of term/semester examination and course work that often takes the nature of written examinations which are the popular criteria in the traditional curriculum, the new curriculum will include a mix of assessment criteria that probes students understanding of theories, principles and ability to demonstrate higher order skills. This will enable assessment 'of' and 'for' learning outcomes. Assessment criteria in the new curriculum will use a mix of: • Written exams, attendance to lecturers, essay assignments term papers and SIWEs report. • Quizzes and test problem solving assignments, group and individual projects. • Laboratory/studio reports, timely submission of assignments, seminars, oral/written presentations and students self-assessment.
Learning/Graduate outcomes expected from entrepreneurial curriculum	On completion of learning programme through the entrepreneurial curriculum, students/graduates should be able to demonstrate the ability to: • Demonstrate technical knowledge and skills integral to the core subject areas of REM e.g. understanding of concepts, theories and principles of valuation and how to use such knowledge to solve practical valuation problems. • Demonstrate basic professional competency skills-set and associated skills relevant for modern real estate surveying practice. • Demonstrate entrepreneurial skills-set relevant for effective entrepreneurial real estate surveying practice

Implications for effective implementation of the improved curriculum:

There is need for stakeholders in REM education to meet debate and agree on the entailment of effective implementation of entrepreneurial curriculum in the context of REM discipline.

The learning outcomes will be structured in such a way as to retain what is strong in the traditional curriculum and at the same time strengthen the weak skills in the new entrepreneurial curriculum to make the REM education more effective and thereby improve the quality of graduates.

The new curriculum requires mixed methods of learning and teaching and assessment strategies that probe students learning of contents and ability to demonstrate and use the knowledge in solving real problem in the society.
There is need also to retrain the REM academics on how to implement the new curriculum.

9.6 Summary and conclusion

This chapter critically evaluates insight from the item analysis and discusses the nature of the new knowledge that comes out of the research in relation to research questions and objectives.

The nature of the new knowledge is summarised as follows:

1. We now know from this chapter that the best approach to entrepreneurship education in the REM curriculum is the discipline based approach to enable embedding of the concepts. The current LTA strategies in the traditional curriculum are not informed by entrepreneurial competences on the part of the lecturers and do not support students development of such competences in the students. The generic approach to entrepreneurship education does not encourage students learning of entrepreneurial skills in the context of real estate management which can be achieved by a discipline-based approach to embed entrepreneurial skills in the REM curriculum
2. Embedding in the context of this research refers to introducing the teaching of entrepreneurial skills course by course (in the core REM courses) to support a generic course served by the centre for entrepreneurship education, which teaches general principles of entrepreneurship.
3. Gaps in REM education manifest mainly as gaps in standards and the LTA practices in the traditional curriculum. The gaps relate to the theoretical learning gaps explored in Light & Cox (2005) and map entrepreneurial pathways as entrepreneurial learning gaps.

4. The entrepreneurial learning gaps revealed in practice by young graduates is a reflection of the gaps in learning at the university which emanates mainly from the way students are taught.
5. The gaps in learning and practice relate to entrepreneurial learning gap. They originate from the curriculum and should be closed from the curriculum by making the learning and teaching of the programme more entrepreneurial.
6. The chapter reveals the schematics of such improved curriculum which requires mixed pedagogies of learning, teaching and assessment strategies that probe students learning of contents and ability to demonstrate and use the knowledge in solving real problem in the society.

The chapter contributes insight to the overall research aim of improving the entrepreneurial capacity of young REM graduates by embedding entrepreneurial skills in the REM curriculum, innovating the LTA strategies and capacitating the lecturers to effectively implement the new curriculum. **I**t is expected that closing the entrepreneurial learning gaps from the curriculum (REM education) invariably helps to close the gaps revealed in practice by young REM graduates. The nature of the new curriculum required to close the gaps will be explored in more details in chapter 10 to culminate in the exemplification of the new curriculum in a case study REM course.

CHAPTER 10: PROPERTY VALUATION CASE STUDY OF REM CURRICULUM INNOVATIONS

10.1 Introduction

A key question in this research is how the learning of entrepreneurship improves the quality of REM graduates and ultimately enables them to the entrepreneurial in the professional practice. In effect, the research looks at innovations that will enable students of specific disciplines to develop the mindset for entrepreneurship and be equipped with skills for being entrepreneurial in the context of the discipline of study in the university.

This chapter presents a demonstration of innovative curriculum for REM education and how such curriculum could be implemented in a case study of property valuation. The discussion in this chapter is informed by the critical analysis of the survey of REM academics, students and practitioners, theoretical underpinnings from the learning literature about ideal learning and learning gaps and how it reinforces the closing of the gaps in learning of real estate management. The rationale for using property valuation as a case study is to concretize the improved curriculum in a core REM course and provide a handle for REM lecturers on how to teach the new curriculum.

The analysis of the survey data are presented in chapters 6, 7 and 8 with a critical review of how the results are linked to the research objectives and questions as presented Chapter 9. The next section presents a critical review of possible learning gaps that could exist in any academic discipline as a background for understanding the nature of learning gaps in REM discipline.

OVERVIEW OF THE LEARNING GAPS IN AN ACADEMIC DISCIPLINE

In Light and Cox (2005), explored in Ezepue (2007a) the authors were looking at what they call the ‘learning weave’ which they used to characterize academic learning that is creative and effective. They characterized such creative learning as:

1. Learning that is concerned with meta-learning and the need for learners to develop transferable skills
2. Learning that enables the learner to cope with an increasingly changing world;
3. Learning that is constructive and requires personally constructed and socially shared meanings and understandings;
4. Links research and teaching in the production of useful knowledge;
5. Learning that addresses the life-world and total world experiences of human beings;

6. Learning that effectively *weaves* the learners' and teachers' "academic competences" in the discipline of study to 'practical operational' competences of their world of work taking into account the learners background abilities and learning styles.

The above items represent the six goals which any effective education should seek to achieve and failure to achieve those goals signals the existence of learning gaps. The authors argue that such gaps are mainly immanent as five gaps in the learning pedagogy which they identified as gaps between:

1. Recall and understanding;
2. Understanding and ability;
3. Ability and wanting to;
4. Wanting to and actually doing and
5. Actually doing and on-going change.

The gaps are in a continuum and represent the theoretical learning gaps that can happen in any academic discipline. The gaps touch six important areas namely recall, understanding, ability to, wanting to (desirability), actually doing and on-going change. These are key areas that must be impacted on for learning to be effective. Otherwise, there are learning gaps which could manifest at any level of the learning taxonomy from "recall, understanding, ability, wanting to, actually doing and on-going change", depending on the nature of the gap.

Our attempt at analysis of gaps in REM and strategies for closing the learning gaps revealed by this research will be based on those five crucial gaps. For example the basic learning gap that happens in education is the teaching of concepts and ability to recall them. Such basic gaps between recall *and understanding* limit the learner's ability to use learned facts and ideas in specific contexts. To make the learning effective, the learning has to be such that the concept does not just have to be recalled but has to be called into practice by the learner such that it is no longer rote learning but contextualized or situated learning. Those five gaps for instance the gap between ability to recall what has been learnt and use it in specific contexts within the discipline are the basic gaps. Among the five gaps, the higher order gaps- 'wanting to', 'actually doing' and 'on-going change' which take the learning experiences from higher education into the practice arena map entrepreneurial pathway. We argue that if the training we provide students has already been designed within the curriculum through structured learning outcomes to close out the theoretical gaps across the entire programme, then by the time the students are leaving the university education the gaps are already closed. In that sense all that the professional practice does is to keep enhancing a richer knowledge that is already obtained.

The learning environment could sometimes contribute to the learning gaps particularly if the learning institution lacks the educational resources to support effective teaching and learning (Hughes, 1999; Ezepue, 2008). Teachers as key determinant of the quality of learning and level of attainment of the learners whom they teach could also contribute to the learning gaps. For instance, if teachers are not properly trained and retrained they may lack the appropriate teaching training that enable effective teaching and contribute to the learning gaps that they should help students overcome (Hughes M, 1999; Ezepue, 2007).

The above ideas depict the goals of ideal learning, the nature of learning gaps that may exist in a learning discipline and gives insight about the strategies that will help to close the gaps. These provide pathways to the nature of innovations required to make the learning in an academic discipline more creative and effective. The ideas will inform our discourse on the gaps in learning of REM and innovation required to close the gaps and make real estate management education in Nigeria more effective and entrepreneurial.

The next section gives a summary of gaps in learning of REM as indicated by the research, how the gaps relate to the gaps we know from the learning literature and the strategies for overcoming the gaps to make the REM education more effective.

10.2 Nature of gaps in learning of REM in Nigerian universities

The rationale for this section is to provide an understanding of the extent to which the benchmark academic standards (NUC BMAS 2007) which is regarded as an improvement over the traditional curriculum is capable of closing the theoretical gaps and the gaps in learning and teaching practices in the discipline, if effectively implemented.

The overall learning gaps in REM as revealed by the research are summarised as follows:

1. The gaps in the traditional learning curriculum
2. Gaps in the lecturers' current learning, teaching and assessment (LTA) practices as revealed by the research. i. e. in relation to the lecturers understanding of what they should or should not be doing.
3. Gaps from the students' perception of their lecturers' teaching and assessment practices.
4. Gaps revealed in the professional practice by the young REM graduates.

SUMMARY OF GAPS IN THE TRADITIONAL REM CURRICULUM

The outline of gaps in the traditional curriculum for REM education in the Nigerian universities is presented in table 10.1 below.

Table 10.1 Outline of gaps in the traditional curriculum for REM education

S/N	List of Gaps
CURGap1	**Gaps between the NUC standards and the university REM curricula that implement the standards**. (The gap in enforcement/implementation of the current academic standards).
CURGap2	**Gap in the structuring of the learning outcomes** The structure of the traditional curriculum for REM education in most Nigerian universities is prescriptive and content based, with emphasis on assessment of learning, as against outcome based structure that enables assessment *of* and *for* learning .
CURGap3	**Entrepreneurial content gap:** The university curricula for REM education lacks entrepreneurial contents specific to real estate surveying education

Table 10.1 above is a summary of finding about the gaps in the traditional REM curriculum. *CURGap1, CURGap 2 and CURGap 3* are acronyms for *curriculum gap* and are used to itemize the gaps in the traditional curriculum. The acronym CUR stand for curriculum and is used to differentiate the gaps in curriculum 'CURGap' from the gaps in the learning, teaching and assessment practices 'LTAGap' as used in the further section. The gaps stem mainly from the difference between the (NUC) standard and the university curricula that implement the standard. The NUC Benchmark Academic Standards (BMAS, 2007) which is the baseline for development of the university curricula provides for entrepreneurship education for the university students. This provision for entrepreneurship education is not in the traditional Minimum Academic Standards (MAS) of 1997 which is the standard that is currently implemented in most Nigerian universities. The result is that most university curricula, for REM education do not have lack entrepreneurial content.

The design of the learning contents is also expected to be outcome-based and not prescription based to enable effective structuring of the learning assessments.

We therefore argue that the traditional university curricula for REM education are generally weak (in terms of structure and content) and need to be strengthened in order to improve the standards of REM education and the quality of graduates. Even the current academic standard (BMAS 2007) still needs improvement in the area of updating to current standards and best practices in entrepreneurship education. This should take the nature of making a

policy for discipline based entrepreneurship education for all the university programmes to enable embedding entrepreneurship education in specific discipline.

Table 10.2 segment relates the gaps in the traditional curriculum with the five learning gaps depicted by Light & Cox, (2005). It depicts how the learning gaps from the research relate with the possible learning gaps that can exist in a learning discipline.

Table 10.2 Mapping the gaps in the REM curriculum with the theoretical learning gaps in (Cox & Light 2005)

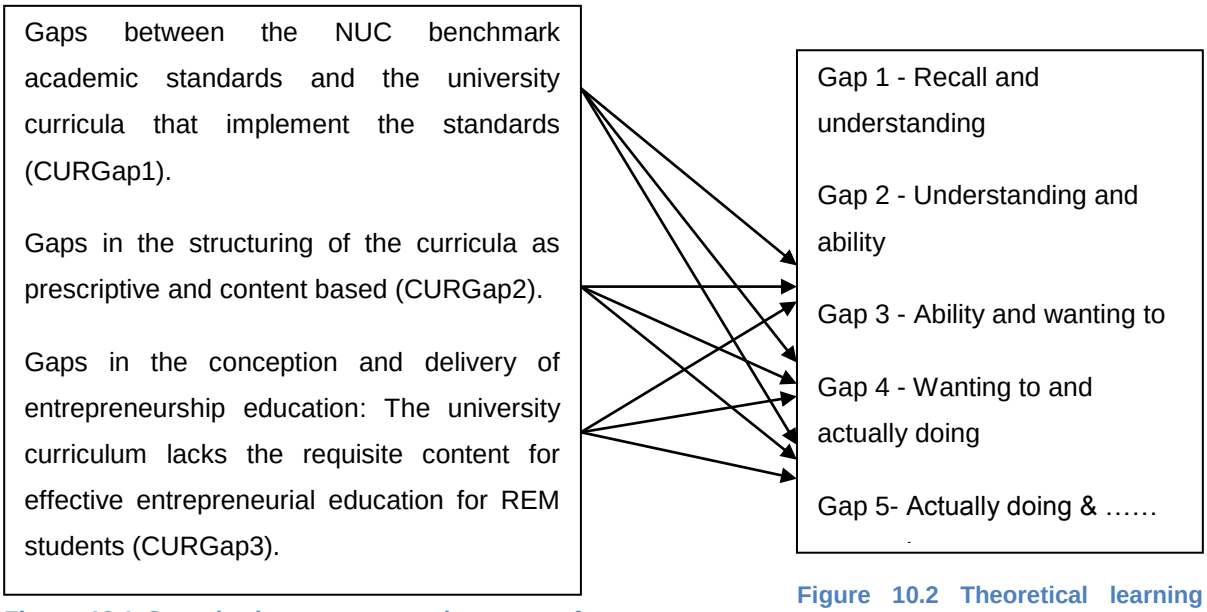


Figure 10.1 Gaps in the structure and content of REM curriculum

Figure 10.2 Theoretical learning gaps (Cox & Light 2005)

The gaps in the traditional curriculum for REM education are in 3 forms and represented by CURGap1, CURGap2 and CURGap3 as acronyms for curriculum gaps 1, 2 and 3 respectively. As seen from table 10.2 above, the gap is in the nature of the difference between the benchmark academic standard and the university curricula that implement the standard (CURGap1). The current NUC standards for university education in Nigeria is the Benchmark Academic Standards (BMAS, 2007) but most universities have not implemented this standards and are still operating with the NUC Minimum Academic Standards (MAS, 1997) which has no provision for entrepreneurial education. The next gap CURGap2 manifests in the structuring of the curricula as prescriptive and content based (CURGap2), as against the outcome based structure required by the BMAS 2007. CURGap3 is the gap between the conception and implementation of entrepreneurship education in the Nigerian universities.

Among the philosophy and aims of the REM education as stated in the BMAS (2007) is ‘to develop in students the entrepreneurial skills of value for self-employment in the profession’.

The current top-down approach to entrepreneurship education in the universities therefore reflects a gap between the concept of entrepreneurship education where generic enterprise skills are offered to students by the universities entrepreneurship studies centre irrespective of the discipline of study and the implementation of such plan.

In relation to the theoretical gaps from the learning literature, the gaps in the curriculum are more strongly related to gaps 2-5 which are more directly linked to entrepreneurial thinking. Hence, the university curriculum for REM education strongly manifests entrepreneurial learning gaps. The implication of the gaps is that the traditional curriculum 'as is', is inadequate for effective REM education and needs to be improved.

10.3 Summary of findings about gaps in the current LTA practices

The gaps in practice consist of the gaps in the lecturers' learning, teaching and assessment practices in the delivery of the traditional curricula as revealed by the research. It also consists of the gaps inherent in the students' perception of the lecturers' teaching and assessment practices in the REM programme and graduate outcomes from REM education. The summary of findings about the gaps in the LTA practices is presented in table 10.3 below.

Table 10.3 Outline of gaps in the current LTA practices

S/N	Gaps in Practice (LTA practices)
LTAGap1	**There is gap between the conceptions of learning and the LTA practices in the traditional REM curricula:** Analysis of REM academics and students survey data reveal that learning in REM is conceptualized from both theoretical and application perspectives. This conception should support deep learning but the teaching and assessment strategies do not support such deep and higher order learning and reveals a gap.
LTAGap2	**Gaps revealed by the lecturers' methods of teaching:** The use of lecture as the most popular **method** of teaching reveals a gap in development of the learner's deep knowledge of the concepts and how to apply such knowledge **(Recall, understanding and ability). Lecture method alone is not effective in teaching of skills for application of knowledge**
LTAGap3	**Gaps revealed by the learning assessment strategy:** The lecturers' assessment strategy emphasis on exam and exam related methods. Such assessment strategy is effective in assessment *of* learning but weak in the assessment *for* learning.
LTAGap4	**Gaps inherent in the lecturers' teaching qualifications and skills:** Most REM lecturers are subject matter experts with professional qualifications but without teaching training. This fact contributes to the gaps in their teaching practice as they sometimes manifest the gaps they should help students close in their teaching and assessment practices. The gaps are more apparent in the way they structure the learning outcomes. Because they have been teaching without any teaching training, they may not realise that there is a way to structure the learning outcomes to make the learning more effective. The result is that the learning outcomes are too superficial to encourage deep learning.
LTAGap5	**Entrepreneurial learning gap:**

	The LTA practices in the traditional curriculum are not informed by entrepreneurial competences and young REM graduates manifest such gaps in their employers' organisation.

This second aspect of learning gap is in the nature of the difference between what is known about effective learning and outcomes exhibited by the learner. The gap manifests from the manner of the delivery of the curriculum i.e. the learning, teaching and assessment practices in the university.

The gaps are mainly pedagogical (resulting from the way students are taught and the lecturers' teaching and assessment practices). For instance, the use of lecture alone as the main teaching method manifest gaps between understanding of concepts and ability to use the knowledge of the concepts in problem situations. The generic approach to entrepreneurship education limits the learning of entrepreneurial skills and how to apply such skills in core REM practice. Students manifest these gaps by way of learning the concepts without being able to actually apply their understanding of the concepts learned in complex problem situations. For instance, young graduates of real estate management manifest gaps in the sense that they are not effectively using the knowledge of core REM concepts to solve real estate surveying problems in real life situations. They also manifest gaps in demonstration of entrepreneurial mindset and professional competency skills in their employers' organisation as revealed by the research.

The **entrepreneurial learning gap (LTAGap5)**, results from the gap in the content of the curriculum **(**as outlined in table 10.1) and the way student are taught in the university programme. The teaching, learning and assessment practices are not informed by entrepreneurial competences.

Table 10.4 Mapping of the gaps in the curriculum practice with the theoretical learning gaps in Light & Cox (2005)

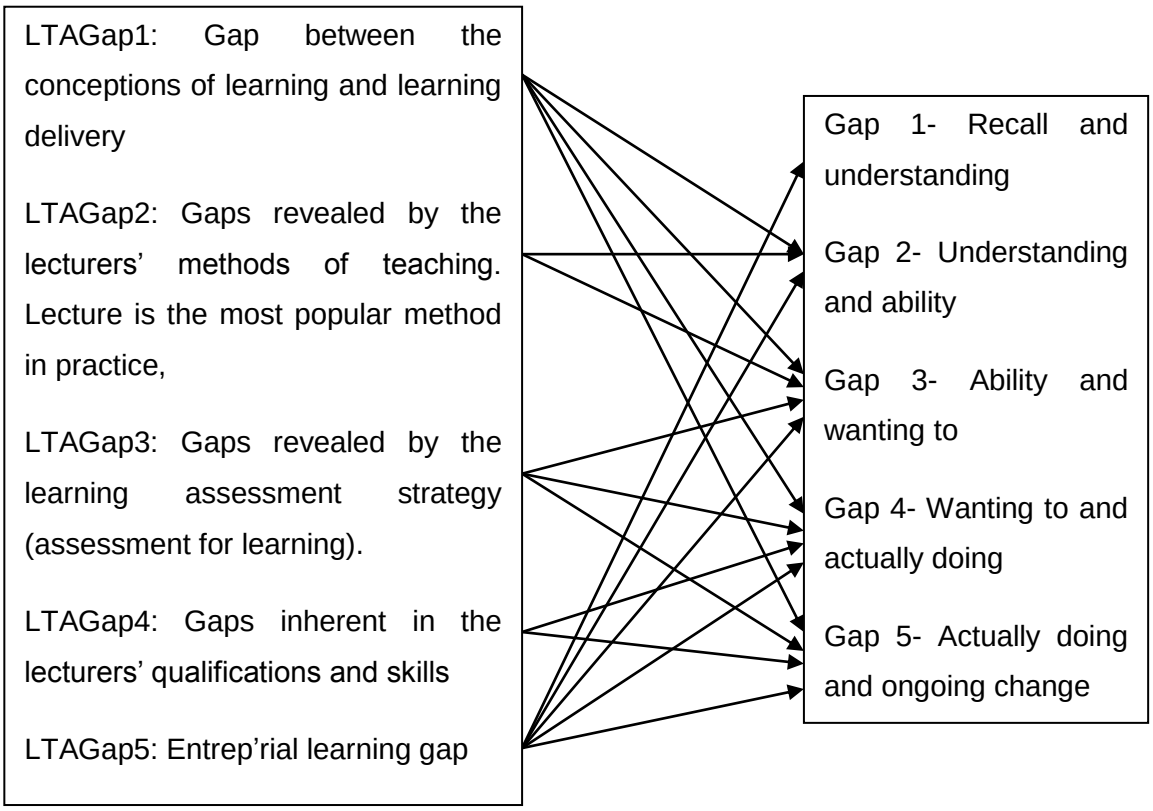


Figure 10.3 Gaps revealed by the current LTA LTA practices in the traditional curriculum

Figure 10.4 Theoretical learning gaps (Light & Cox 2005)

Table 10.4 relates the gaps from the LTA practices with the basic learning gaps that may exist in a learning discipline (Light & Cox, 2005). The gaps in the LTA practices are represented as LTAGap1, 2, 3, 4 and 5. As seen in table 10.4 above, the learning practices in the REM discipline reveal a gap between the conceptions of learning and learning delivery (LTAGap1). This gap exists because of the strategies used in the delivery of the curriculum.

The conceptions of learning support deep knowledge of the subject matter and application of same in solving real estate surveying problems, but the practices in the delivery of learning do not support such deep and higher order learning. Looking at table 10.4 above, the gap in the curriculum delivery relates to gaps between "understanding and ability" (Gap 2), followed by gaps between 'ability and wanting to' (Gap 3), 'wanting to and actually doing' (Gap 4), to 'actually doing and ongoing change' (Gap 5).

As illustrated in the above examples, the overall strategy for curriculum delivery reveal gaps in addressing the crucial goals of effective education known from the learning literature namely: learning that is constructive and enables the learner to develop transferable skills to

cope with the ever changing world; and addresses problems in the real life experiences of human beings and the world of work.

The gaps revealed by the lecturers' teaching practice (LTAGap2) relate to theoretical learning gaps between "understanding and ability", (Gap 2). The most popular method of teaching in the discipline is lecture. Teaching mainly by lecture method alone encourages surface/shallow learning with the result that student learn to pass exams and acquire certificates but are weak in their understanding of how to apply the knowledge. For instance, in the opinion of real estate surveying practitioners, young graduates of REM are found to be deficient in the application of their knowledge of theories and principles of real estate management in solving real life problems in the society.

Secondly, the assessment practices in the discipline concentrate on exams and exam related course work. The strategies emphasize on assessment of learning that is not balanced with assessment for learning. Such learning assessment practices reveal gaps in measuring students' "understanding" of concepts, theories and principles and their "ability" to perform practical tasks and achieve practical solutions to problems. In the field of REM practice the gap manifests in form of students' inability to demonstrate practical application of their knowledge of theories and principles of core REM subjects in solving practical problem examples because the LTA practices in the programme do not effectively make that connection (due to lack of practical activities in the assessment for learning).

The gap in the learning assessment (LTAGap3) relates to theoretical gaps in 'ability and wanting to' (Gap 3); 'wanting to and actually doing' (Gap 4); and Gap 5- actually doing and on-going change' and could be overcome by strategies that close those gaps as depicted by the learning literature. This will be discussed further in the section on closing the gaps.

The next gap (LTAGap4) is the gap inherent in the fact that most REM lecturers are subject matter experts without any teaching training and may not be properly skilled to construct effective learning outcomes. The gap manifests as theoretical Gaps 4- Wanting to and actually doing and Gap 5- Actually doing and ongoing change. Our critical evaluation of the current LTA practices in the traditional curriculum (Chapters 6&7 of this thesis) reveal that lecturers teach the contents, theories, principles of a course, tests students understanding of those concepts but do not test the practical demonstration of the learning of those concepts. In other words they do not construct learning outcomes that that require students to carry out projects, visit sites and write reports or other practical assignments as means of testing the students for the learning of skills and demonstrating same in real life situations as effective assessment 'for' learning. The implication is that most REM lecturers may actually be manifesting the same gaps that they should help students close as they may not have the mastery of the skills for effective delivery of innovative curriculum.

The next gap revealed by the LTA practices is the entrepreneurial learning gap, LTAGap5 in table 10.4 above. As can be seen from the table, LTAGap5 cascades across all the theoretical learning gaps. Although it is not mentioned among the five learning gaps as depicted by the learning literature, our analyses in this research particularly in Chapters 6, 7, 8 and critical discussion of results in Chapter 9 of this thesis reveal entrepreneurial learning gap as one of the pedagogical gaps. In that sense, the entrepreneurial learning gap could be regarded as a new gap- the sixth learning gap. The gap is particularly immanent as gaps in the achievement of the goals of creative and effective learning, (Light & Cox, 2005). To reiterate, the goals of creative and effective learning emphasises the need to enable the learner to learn how to learn and develop transferable skills, learn how to cope with an increasingly changing world; achieve constructive learning that requires personally constructed and socially shared meanings and understandings; learning that enables the learner to address the life-world and total world experiences of human beings. Ultimately the goal of effective learning is to *weave* the learners' academic experiences in the discipline of study to 'practical operational' competences of their world of work.

These goals are closely related to the goals of effective REM education under the BMAS (2007) as detailed in our review of the standards for REM education in Nigeria in chapter 3 of this thesis. As discussed in that chapter, among the main aims of REM education under the BMAS (2007) is to "develop in students entrepreneurial skills of value for employment in the profession".

The fact that the traditional university curricula for REM education lack entrepreneurial contents means that entrepreneurial skills are not reinforced in the teaching of REM courses. The REM education using the traditional curriculum 'as is' does not produce graduates equipped with entrepreneurial skills of value for effective entrepreneurial REM practice. The generic approach to teaching entrepreneurship in the university contributes to the gaps. In most of the universities where entrepreneurship education has been implemented, the teaching takes a top down generic approach where the entrepreneurship learning is managed by each university's entrepreneurship studies unit. This approach to learning entrepreneurship often succeeds in creating awareness about entrepreneurship generally but does not encourage the development of entrepreneurial skills among students in specific disciplines in the context of disciplines of study. The result is that even with the entrepreneurship education going on in the universities, the students are likely to manifest entrepreneurial learning gap in their career prospect which are likely to culminate into entrepreneurial gap in the world of work on graduation from the university.

For instance, our analysis of the survey of REM practitioners reveal that in the opinion of the experienced REM practitioners, young REM graduates manifest gaps in the demonstration of entrepreneurial mindset and behaviours in the employer's real estate surveying organisation.

Entrepreneurial skills are among the graduate outcomes expected from effective REM education for professional practice. For instance, our critical evaluation of the professional standards for REM practice (in chapter 3 of this thesis) just like in the standards for REM education identify enterprise skills as among the graduate outcomes required for effective real estate surveying practice. The result is that although the real estate surveying profession is inherently entrepreneurial as shown by our critical evaluation of professional standards for REM practice in chapter 3, and our critical analysis of gaps in chapter 6, the training in the university programme is not informed by entrepreneurial competences even though the overall programme reinforces professional learning.

The fact that the university education is not effective in equipping students with entrepreneurial skills relevant to the discipline of their study means that young graduates also carry the entrepreneurial learning gap from the university into the professional practice. The gaps are more manifest in young graduates because the training that they received in the university did not enable them to anticipate and internalize the kind of practical problems they would be engaging in the world of work and how to overcome such problems using the knowledge of the core discipline of study in the university. Being fresh from the university, they have not also been adequately exposed to the rigours of the practice through which they could acquire some tricks to get along in the course of their professional experiences.

The implication of this result is that the top-down entrepreneurship education that currently happens in the university does not enable REM graduates to practice entrepreneurially and needs to be supported by a discipline based approach whereby the teaching of entrepreneurship skills is embedded in every core course in the REM curriculum to make the learning more contextual and effective.

We have seen what is happening in the classroom in terms of the gaps in the current learning, teaching and assessment (LTA) practices in the traditional curriculum as presented in table 10.3 above. Based on the foregoing analysis, the researcher is of the view that the gaps relate to the theoretical gaps in learning as explored in Light and Cox, (2005). Based on the foregoing analysis the researcher is of the view that the gaps revealed by the LTA practices are reinforced by the fact that the traditional curricula itself is weak in content and structure and need to be strengthened in order to make REM education more creative and effective.

The next section will examine the strategies for closing the gaps.

10.4: Strategies for overcoming the gaps in curriculum and in the LTA practices

We start by summarising the gaps in learning and practice in the REM education into three main categories as follows:

1. Gaps in the curriculum design and development comprising:
    - Gaps between the NUC benchmark academic standards and the university curricula that implement the standards.
    - Gaps in the structuring of the curricula as prescriptive and content based.
2. Gaps in the lecturers'(LTA) practices in the delivery of the curriculum comprising:
    - Assessment strategies reveal gaps in assessment of learning and for learning i.e. gap in measuring students' understanding of concepts, theories and principles and ability to perform practical tasks and achieve practical solutions to problems.
    - REM lecturers are subject matter experts without teaching training and manifest some of the gaps they should help students close in their teaching and assessment practices.
3. Entrepreneurial learning gap comprising:
    - Gaps inherent in the conception of learning and delivery of entrepreneurship education in the Nigerian universities.
    - The traditional REM curricula lack entrepreneurial competences in content and delivery.
    - Entrepreneurial gap revealed in practice by young REM graduates.

We have in the previous section analysed how the gaps in learning of REM as revealed by this research relate to the gaps in learning pedagogy that can happen in any discipline and discovered entrepreneurial learning gap as a new learning gap. Our attempt at closing the gaps will therefore be based on closing the five crucial gaps as depicted in Light and Cox (2005), especially the last three gaps which inform entrepreneurial learning gap. Our gap analysis as discussed in Chapter 9 of this thesis, show that the gaps in the REM education relate to gaps in standard, delivery and the entrepreneurial gap. Such gaps are usually addressed in the academic competence focus of the learning interventions and the best way to close the gaps is to close them from the curriculum. The learning intervention we advocate in this research is in the form of improving the traditional curriculum for REM education to make it more entrepreneurial and introducing the use of mixed pedagogies in the delivery of such improved curriculum.

In order to close the gap in the structure and content of the traditional curriculum, we need to embed entrepreneurship education into the REM curriculum to make the learning of entrepreneurship more contextual. The nature of such entrepreneurial innovation will be further discussed under the strategies for closing entrepreneurial learning gap.

The design and delivery of such innovative curriculum will also incorporate critical pedagogy in the nature of elements of critical thinking and standards of critical reasoning. As argued in Ezepue & Ojo (2012) and Nosich (2005), such critical pedagogies enable the learner to develop all-round understanding of facts, contexts, view-points, questions at issue, required information, concepts, consequences and implications of a learning situation and help to close the theoretical learning gaps. For example the basic theoretical learning gap that happens in the learning of a discipline is the gap in the teaching and learning of concepts and the ability to recall them. Such gap limits the learner's ability to link knowledge of the concepts to the relevant contexts. In order to close the gap and achieve depth in the learning of the subject matter, there is need to adopt multi-sensory learning strategies that probe the learner's multiple intelligences in the delivery of the new REM curriculum. Such strategy enables the learner to develop new meanings from the knowledge of concepts and principles of REM and understanding of how to apply such knowledge to problem situations in real life. The learning is achieved by use of classroom activities that ignites and engages the learner to think through problems in order to deepen the understanding and mastery of the concepts (Hughes, 1999). By so doing the learning is contextualized and situated into relevance to the discipline of study.

The learning gaps that relate to the other crucial areas of learning like 'understanding', 'ability', 'wanting to (desirability)'; actually doing, and 'ongoing change (transformation)' which take the learning experiences from higher education into the practice progressively manifest in a continuum, and are usually addressed by use of innovative pedagogies to teach higher order learning and skills in the curriculum delivery, (Ezepue, 2008; Rollick, et.al 1998; Lave & Wenger, 1991). Examples of such innovative pedagogies include use of real life case problem based examples, industry placements, work experiences, case studies, relevant and well explained examples and suitable formative and summative assessments for learning.

Strategies for addressing the entrepreneurial learning gap

Entrepreneurial learning gaps relates to Light and Cox's five learning gaps particularly Gap 5, between '*actually doing and ongoing change".* For instance young graduates from REM or any other university programme would naturally *want to* create wealth and make a living from the knowledge gained from the course of study in the university. In essence, effective entrepreneurial education would equip such graduate with skills and ability to identify wealth

creating opportunities and originate ideas for developing new businesses and/or improving and expanding existing ones. If young graduates are not able to *actually apply* the knowledge gained in the university to effectively identify opportunities and solve real estate related problems facing mankind, then they manifest entrepreneurial learning gap and cannot create wealth with what they have studied in the university.

We have seen from our discussion in chapter 9 that the entrepreneurial learning gaps in the learning curriculum automatically translate to the entrepreneurial learning gap revealed by young REM graduates in the world of practice. As such, the gap needs to be addressed from the LTA practices in the programme by reinforcing entrepreneurial skills in the teaching of core REM courses. This requires immersion in critical learning and experiential pedagogies to enable the learner to make sense of how to use the learning in the real world. Such pedagogies will help to link the learning of the core constructs of the REM through the curricula to connect to achieve knowledge that is balanced between theory and practice to the ways in which such practice is enhanced in solving societal problems. As illustrated in Rose & Delany (2007), the use of case studies in various form such as deriving cases from real life situation or as scenarios to illustrate a point or even as analytical tool are particularly effective in such linking of theoretical knowledge with real world of work.

In this research we argue that some aspects of professional activities that reinforce entrepreneurial learning should be taught within the university curricula by use of case studies. The idea is to inculcate entrepreneurial skills and mindsets while the students are still in the university so that by the time they graduate from the university the training can continue in the employer's organisation. All that the professional practice needs to do is to keep enhancing a richer wealth of knowledge and experiences that is already obtained by the young graduate while in the university.

The focus group expert debate dwelt extensively on the nature of skills that REM students should learn in the HEIs to enable them use their learning from the course of study in identifying and solving societal problems entrepreneurially. These skills include time management skills. In REM professional practice the practitioners are dealing with the management of time and space. A professional should be able to understand how people feel about the problem and come up with solution (problem solving skills). Emphasis should be on looking at a problem and solving it. An entrepreneurial REM graduate needs to understand for instance that every valuation problem is a research problem. He should be able to see the problem and assess what the problem is, how to solve it, what data set is needed to solve such problem. The professional should be able to articulate and communicate his ideas fully (Oral and written communication skills) and be at home with the

use of technology (ICT skills). Thinking entrepreneurially should come up with options, likely and unlikely (skills for managing complexity and problem that has problems).

An entrepreneur is a lateral thinker, a critical thinker (Critical thinking skills). If a student is taught entrepreneurially, then he will think and act like an entrepreneur (entrepreneurial skills) on graduation by being a lateral thinker and a critical thinker. How should this entrepreneurial graduate give advice? It goes back to how he was taught. For example, he should have been taught that in giving a valuation advice, he needs to discuss his interim or draft report with the client (Skills for relating confidently with the client) and have their comments integrated in the final report.

This makes the client feel that he is part of the job and is carried along in the course of finding solution to his problem (Skills for identifying what the client needs and meeting such need). The graduate should have been taught that as a professional he gets paid to help people realise their needs and the client must be satisfied with the solution as giving him value for money (Client satisfaction). An entrepreneurial graduate must keep to ethical standards (Compliance to ethics and codes of practice), and follow a checklist that he ticks off and seeks information from clients in a way that makes them feel part of the job to oblige such information (Data collection skills).

An entrepreneurial professional should form the habit of recording any moment of deep insight and uncommon experiences in the course of solving professional problems (Record keeping). He does a critical reflection of insight in terms of what he did, how he managed the process and how he went about solving the problem (creative problem solving). There should be a short documented record that gives insight into how the expert executes his projects. Record of such insights must be kept as a way of bringing together all the experiences of the day and showing deep and unusual insights to tease out any new knowledge which can further be used in training.

The key to achieving effective delivery of entrepreneurial curriculum therefore lies in the use of mixed pedagogies. The delivery approaches should emphasis strategies that develop in students the skills and ability for handling common and uncommon problems. How? This could happen by bringing in reflective and reflexive thinking to develop in students the skills that make them original problem solver. For example by using role playing where a student can act as a problem owner or landlord to demonstrate how to do it in real problem situation; debriefing oneself by preparing one page reflective report for every assignment done; using critical insight and intuition to solve a problem that has a problem, for example, in carrying out valuation of a property with incomplete market data.

Students should be led to understand how to develop higher order skills by using insights from elements of critical thinking and creative reasoning to evaluate a problem for higher order learning.

Ideas developed in Kolb's experiential learning and Bloom's taxonomy of learning outcomes provide useful constructs for designing effective strategies for assessment of constructive learning in the emergent curriculum. The use of experiential learning pedagogies like case studies, simulations, role playing and other such examples will enable REM students to develop depth in the learning enhance their ability to extend knowledge beyond the confines of the university and other contexts in a way that makes the university education more entrepreneurial and meaningful. University-industry collaboration like inviting REM practitioners and entrepreneurs from related discipline as speakers in seminars and workshops for REM students/undergraduates enables the new way of doing business to filter through to the university.

The above ideas give insight into the nature of the curriculum improvement and pedagogical innovations required to address the gaps and produce entrepreneurial REM graduates from the university programme. They also inform the kind of ideas that would be structured into the emergent entrepreneurial curriculum that would be presented later in this chapter.

Gaps inherent in the REM lecturers' lack of teaching training could be overcome by developing and improving their learning and teaching skills through training and retraining programmes, (Hughes, 1999). The fact that most of the REM lecturers are subject matter experts without teaching training means that they themselves possess learning gaps and may not be able to help students close the same gaps effectively. The gap manifests in form of construction of weak strategies and activities that engage effective assessment of learning outcomes. The lecturers' assessment practices reveal gaps in assessment 'about' learning and assessment 'for' learning i.e. gap in measuring students' understanding of concepts, theories and principles and ability to perform practical tasks and apply practical solutions to problems.

It is a known fact from the psychology of learning literature that authentic mastery of assessment 'about' and *'for'* learning by the teacher is reinforced by the increase in the self-concept, self-efficacy, self-esteem and autonomy which these approaches generate in the learner as against the traditional lecture method predominant among the REM academics (Ezepue, (2007); Nortcliffe 2006 and O'Leary 2006). As observed in Powel (2013), some instructors may even need training and retraining to adapt to the role of coaching and facilitating entrepreneurial learning. These ideas inform the nature of staff development programme that could be organised for REM lecturers to enable effective delivery of the new innovative curriculum.

In summary, the learning gaps can be overcome by developing a discipline based entrepreneurial curriculum, delivering such new curriculum by use of innovative pedagogies and equipping the REM lecturers with skills for effective delivery of the new curriculum.

10.5 Curriculum development

Key Constructs

The following key curriculum constructs are briefly explained in this section to enable an understanding of their use in the curriculum development.

Learning "about" and learning "for" courses

Learning 'about' courses focus on helping students to assimilate and reflect on existing knowledge and resources that enhance their understanding of a topic or theme. The teaching of learning 'about' course usually relies on traditional pedagogies like lecture and lecture related method that enable students/learner to explore the theoretical underpinnings of the topic of study. For example, in the learning 'about' entrepreneurship, students may learn the evolution of enterprise and entrepreneurs through lecture and critical evaluation of relevant literature on enterprise and entrepreneurship.

Learning 'about' context is therefore more applicable in curriculum development if the intention of the learning is to enable the learner have understanding of concepts, theories and principles of a subject matter of study. For instance, in learning 'about' entrepreneurship, the generic entrepreneurship course offered at the university's Centre for entrepreneurship education can adequately provide the desired knowledge 'about' entrepreneurship.

Harrmann et al argues that if the objective of entrepreneurship education is to teach the learner the learner how 'to become' or how 'to do' entrepreneurship, the curriculum should be developed in the learning 'for' context. For example, if the intention of entrepreneurship education is to teach students how to develop the mind-set and skills to become entrepreneurial, then the learning 'for' entrepreneurship courses are more effective. Such courses are also effectively taught by the use of experiential learning opportunities that engage and enhance students' abilities and skills in practice. Examples of such strategies include scenarios, simulations, role playing, case studies and other such methods that challenge the learners thinking and make explicit their need for creativity and innovation (Harrman et al, 2008; Balan & Metclafe, 2012).

A combination of the ‘learning about’ and ‘learning for’ constructs in the curriculum processes is the mixed pedagogy we envisage in the emergent curriculum for REM programme. The importance of the constructs for learning of entrepreneurship lies in the fact that it provides a more holistic and integrated learning in which the learning ‘about’ courses provides the theoretical under-pinning that supports the practical application covered under the learning ‘for’ courses.

In the context of developing an improved curriculum for REM education we intend a mixed approach where both learning ‘about’ and learning ‘for’ entrepreneurship are combined for effective entrepreneurial REM education. The structure of such mixed approach will involve learning entrepreneurship in two separate contexts- the generic context and the within REM core course context. This will involve the centre for entrepreneurship education in each university providing generic course that exposes the students to the learning of general theory and principles of entrepreneurship to create entrepreneurial awareness. The year one REM students will take the course as a compulsory core. The learning ‘for’ entrepreneurship which is intended to expose students development of the mind-set and skills for entrepreneurship in REM will be embedded in the core REM courses.

The teaching in each of the entrepreneurship programme will also require the mixed approach whereby the traditional teaching methods need to be augmented with innovative pedagogies. For example the objective of the generic course is to expose students to the learning of the theoretical knowledge of entrepreneurship which will underpin the learning of the mind-sets, skills and behaviour in the context of REM. Ordinarily, the traditional teaching methods like lectures, literature reviews and such similar assessment strategies would be adequate. But we would like to augment the traditional methods with learner-centred pedagogies and multidisciplinary programmes to enable students develop understanding of how the concepts relate to their specific discipline of study. This will lay a good foundation for development of entrepreneurial mindset, skills and attributes within the learning of the core REM courses (as embedded in the REM curriculum). The teaching within the REM programme will also require the use of mixed methods including traditional lecture methods, critical pedagogies and experiential learning methods as appropriate depending on the topic and level of the learner. The use of critical pedagogies like elements of critical thinking and standards of creative reasoning will be prominent in the teaching of REM concepts and theories to enable the learning to be critical, creative and deep, and then developing case studies to demonstrate how the generic ideas apply to real problem situations. Assessment for learning outcomes should be by giving students assignments that expose them to activities like field projects, inspection of properties for valuation, repairs and maintenance and writing the relevant reports.

By using mixed approach, the REM students stand to gain the robust knowledge of understanding the theories and practice of entrepreneurship in the context of their chosen discipline of study, real estate management rather than having entrepreneurial skills as add on skills that could be tapped into if they fail to gain employment after graduating from the universities.

Graduate outcomes

Graduate outcomes are skills and abilities (the competences) graduates of a university programme are expected to manifest at the end of the bachelor's degree programme. For instance in the context of real estate management education, graduate outcomes are skills and competences graduates are expected to manifest at the end of the bachelor's degree in real estate management from the Nigerian universities. These are made up of subject cognitive skills (subject knowledge and technical skills) and generic skills. The requirements for subject knowledge, generic skills and graduate outcomes expected from effective REM education are outlined under section 2.5.7, with graduate outcomes specifically itemized under that section 2.5.7 (a-m) of the BMAS, (2007). This has been critically discussed in the Chapter 3 of this thesis under the second part of literature review. Although the BMAS does not specifically state entrepreneurial skills as one of the items, it is implied by the philosophy and aims of the BMAS under section 2.5.6 which specifies development of entrepreneurial skills among REM students as one of the main aims of a degree in estate management. These provisions provide us with the baseline guidance for the development of entrepreneurial curriculum.

Based on this provision, the researcher argues that the BMAS intended a discipline based entrepreneurship education for real estate management discipline but does not offer the universities the requisite guidance and framework for effective development of a discipline based entrepreneurship education. This leaves the designers and developers of the university curricula (particularly those already implementing the BMAS 2007) in the dark about how 'to develop in students entrepreneurial skills of value relevant to the profession' as envisaged by the BMAS, 2007. This research makes a major contribution to knowledge by showing how to develop such curriculum and also exemplifies the curriculum. The universities that are still operating with the Minimum Academic Standards (MAS, 1997) may not even have noticed the need for curriculum innovations to integrate entrepreneurial education since the content of the MAS 1997 standards does not provide for such innovation that includes entrepreneurial education in the first place.

The researcher relies heavily on the QAA document, the Enterprise and entrepreneurship education (2012), to fill the gaps in the NUC BMAS standards about discipline based entrepreneurship education. The QAA document is developed to guide academics,

educators and professionals in the UK on how to embed entrepreneurship skills across the curricula. Although QAA networks do not extend to providing guidance to Nigerian education system the document is prepared by a team of best experts in entrepreneurship education and curriculum development in the UK. That being the case the document reflects the current entrepreneurial thinking on entrepreneurship education and illuminates the contemporary best practice that supports development of effective entrepreneurial curricula for undergraduate programmes like REM. We want to key into the QAA model as the framework for development of an improved REM curriculum that enables effective learning and assessment of entrepreneurial behaviours, skills and attributes which altogether contribute to development of entrepreneurial mindset and effectiveness among REM graduates.

The Emergent REM Curriculum

The improved curriculum will take the nature of the NUC benchmark minimum academic standards (BMAS, 2007) in content but with improvement in the strategy for entrepreneurship education. The new curriculum will adopt a discipline based entrepreneurship education with a mixed top-down and bottom-up approach as against the current strategy which adopts a top-down strategy. The mixed pedagogy takes the nature of having a generic course that is meant to create awareness about entrepreneurship managed by the university's entrepreneurship study centre (top-down approach) while the teaching of the mindset, skills and attributes for entrepreneurial effectiveness are embedded in the various core REM courses.

The delivery of such new curriculum will require the use of modern learning, teaching and assessment strategies to adequately equip the students with skills for being entrepreneurial within the context of the REM professional practice. This will help to solve the current misconception about entrepreneurship education as merely providing backup business activities outside the subject matter area studied in the university.

The question is, how do we structure such curriculum that enables training of the students of REM to master the core concepts of REM and at the same time be creatively entrepreneurial in the practice of REM? For instance do we leave entrepreneurial learning in the university to remain as an add-on course of study with the skills to be acquired through future experiences of graduates in the employer's organisation as is currently the case? Or do we attempt to develop the roots of how to be entrepreneurial in the future career within the university curricula so that graduates can further develop the skills in the self-employment or in the employer's organisation?

This research argues in favour of the second option and we think this can be achieved through innovations in the learning of entrepreneurship in the REM curriculum and in the strategies for learning, teaching and assessments in the REM curriculum. Integrating such innovations in the learning curricula for REM programme requires immersive learning approach- a strategy which enables the learner to be exposed to the realities of theories and practice from start and often enough during the entire period of training. Such pedagogic innovation will take the nature of project and problem based learning, deep and experiential learning and intense use of case studies. The strategies will make the learning of REM deeply theoretical, critically applied and integrative and enable REM student to develop entrepreneurial mind-set for real estate surveying practice on graduation.

The '*how*' of such pedagogic innovation will take a model based approach to linking the theoretical knowledge of core concepts of real estate management to entrepreneurial skills and demonstrating how to effectively use such knowledge in practice. In developing such curriculum we use NUC BMAS as the baseline standards for developing improved curricula for making the LTA practices in the Nigerian universities more skill-based and entrepreneurial. As argued in the foregoing section the baseline standard (NUC BMAS, 2007) which makes provision for entrepreneurship in the universities needs to be improved also by making clear guidelines and frameworks for discipline-based entrepreneurship education to help the universities embed entrepreneurship within the REM curriculum. This is where the QAA document comes handy as a best practice example for development of such entrepreneurial curriculum for REM education in Nigeria.

By so doing, entrepreneurial ideas, skills and attributes can be reinforced in the teaching and learning of the core courses in the discipline such that students are motivated to learn how to be entrepreneurial in the context of REM discipline right from the university, (Ezepue & Ojo, 2012). Such new brand of graduates will be well equipped with the knowledge of how the core concepts of REM combines with entrepreneurial ideas to identify and solve REM problems in the organisation and the wider society in value adding manner either as intrapreneurs or entrepreneurs or co-preneurs in real estate surveying practice.

10.6 Curriculum design and exemplification for core REM courses

Core REM Course

The NUC BMAS 2007 on page 1 of the benchmark for environmental sciences programmes describes core courses as courses which are important for each programme. For the REM programme they are courses without which the students cannot be awarded the Bachelor's degree in real estate management. The professional registration body, the estate surveyors

and valuers registration board of Nigeria (ESVARBON) also requires success in core REM courses for a person to qualify for professional registration and license with the board. In each of the programmes in the environmental sciences including REM, core courses constitute 60 percent of the total weighting of the programme.

Core REM courses include valuation, land economics, property management, feasibility and viability appraisals, building technology, law, town planning and economics. Among the core courses, valuation, land economics, property management, feasibility and viability appraisals are regarded as compulsory core courses offered within the department of estate management while the remaining five are regarded as compulsory core offered in related departments like Architecture/ Building Technology, Law, Urban and Regional Planning. Valuation falls within the compulsory core course category taught within the real estate management department. It is also a core area of professional practice among other primary application domains (PRD) in real estate surveying practice.

A third category of courses is “other compulsory course or compulsory ancillary course” category. Entrepreneurship education is taught as a general studies (GST) course under this third category and offered by a special university Centre for Entrepreneurship Unit.

The overall philosophy of undergraduate programme in REM is “to produce competent estate surveyors and valuers with sufficient technical knowledge and skills in order to optimize the use of land resources to facilitate economic development” BMAS (2007), section 2.5.6. Among the key objectives of REM education is to produce graduates with entrepreneurial skills of value in self-employment in the profession. The objective of entrepreneurship education is stated under section 1.7.2, subsection (e) of the benchmark for entrepreneurship education for the undergraduates in the Nigerian universities (2011) as “preparing students for a post university life with opportunities for job creation and entrepreneurial skills”. The top-down entrepreneurship education often presents entrepreneurship as skills that need to be acquired outside the learner’s chosen course of study and may not effectively produce REM graduates equipped with entrepreneurial skills of value to optimize the use of land resources to facilitate economic development (in the context of the programme of study in the university). This research seeks to develop an improved REM curriculum that fills the entrepreneurial gap so that students passing through the programme are adequately equipped with skills for entrepreneurial real estate surveying practice.

Presently, entrepreneurship education in the Nigerian universities takes a to-down approach. We exemplify an emergent entrepreneurial curriculum that adopts a mixed methodology whereby the generic course managed by the university’s centre for entrepreneurship studies is supported by the discipline-based entrepreneurship education. This will enable

the teaching of entrepreneurial mindset, skills and attributes as embedded in all the core REM courses.

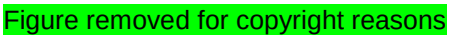
The rationale for the mixed methodology is that it enables students learning of entrepreneurial awareness as well as developing the mindset, skills and attributes for entrepreneurship in the core areas of the REM practice. Another rationale for embedding entrepreneurship course by course is to limit the number of courses students have to offer. The approach offers opportunity for effective entrepreneurship education within the existing courses without introducing new stand-alone courses. This is particularly important because the REM programme is already congested with the number of courses students have to register and pass within the period of study with the result that the authorities that regulate for REM education (the National Universities Commission and the ESVARBON) may not have looked favourably to approving additional courses.

The next section will exemplify the entrepreneurial curriculum using a case study of property valuation. We start by presenting the details of the curriculum for the generic entrepreneurship education to be taken by the year one students and managed by the entrepreneurship studies centre in each university. We then follow this with the demonstration of embedding of activities that engender the development of entrepreneurial awareness, mindset, and capabilities of the students in the learning of property valuation courses.

Implementing the Best Practice Model for Entrepreneurial Curriculum Development

This section presents a summary of the frameworks for implementing the best practice entrepreneurial curriculum. The framework is based on the combination insights from the critical analysis of the research data and ideas from the QAA and BMAS blueprints. The BMAS 2007 provides the baseline for the curriculum content of the subject matter knowledge of REM while the QAA provides framework for embedding entrepreneurial mindset, skills and attributes in specific core REM courses. The ultimate goal of entrepreneurship education is to develop entrepreneurial effectiveness by manifesting entrepreneurial behaviours. Figure 10.5 below presents the framework for developing entrepreneurial effectiveness. The model illustrates the various avenues for developing entrepreneurial effectiveness both within and outside curriculum. Interest in this research is on the process of developing entrepreneurial effectiveness within formal education i.e. within the higher education system.

Figure 10.5 Entrepreneurial effectiveness development model/framework



Source: QAA (2012), Enterprise and Entrepreneurship education: Guidance for UK higher education providers. P.12

The process starts with the developing of general awareness about enterprise; then mind-set for identifying and creating enterprise opportunities; the followed by involving in tasks and activities like projects and work placements that develop the skill/capacity and then the self-directed learning that manifest entrepreneurial graduate outcomes.

10.6 below presents the model for linking entrepreneurial effectiveness to graduate outcomes.

Figure 10.6 Linking the development of entrepreneurial effectiveness to graduate outcomes

Figure removed for copyright reasons

Source: QAA (2012), Enterprise and Entrepreneurship education: Guidance for UK higher education providers. P.12

The outcome of effective entrepreneurship education is the learner's manifestation of entrepreneurial behaviours, attributes and skill on graduation. The model shows how the learning outcomes that encourage effective entrepreneurship education can be mapped onto the development of entrepreneurial awareness, the mind-set, capacity and effectiveness to enable the learner manifest entrepreneurial behaviours, attributes and skills on graduation.

In the next section we use the framework to connect the key elements in the development of entrepreneurial effectiveness with graduate outcomes in an REM education to demonstrate the links amongst entrepreneurial learning, REM education and practice and then the embedding process. We then follow up with the exemplification of innovative curriculum using property valuation as case study to provide a handle for REM lecturers for teaching the new curriculum.

Table 10.5 Linking the development of entrepreneurial effectiveness to learning outcomes in entrepreneurial REM curriculum

Key themes	Entrepreneurial learning topics/activities that apply to various student's level			
	Yr.2	**Yr.3**	**Yr.4**	**Yr.5**
Enterprise awareness	Understanding what enterprise means to an REM student. The discussion brings down the learning from the generic course in Yr.1 specifically to REM discipline.		Students Industrial Work Experience scheme (SIWES)	
Entrepreneurial mind-set	Introduce ideas that enable the learner develop the mind-set for entrepreneurship in REM discipline e.g. Personality and social identity, Ambition, motivation & goals, Personal confidence and resilience, Self-discipline & personal organisation	Continues ideas that enable the learner to develop entrepreneurial mindset: Go beyond perceived limitations to achieve results, Tolerance of uncertainty, risk and failure, Personal values: ethical, social & environmental awareness.	SIWES	
Entrepreneurial capability	Display of basic entrepreneurial behaviours and skills	Introduce activities that develop entrepreneurial behaviours, attributes & skills: Creativity & innovation, Opportunity recognition, creative evaluation of ideas, Decision-making supported by critical analysis & judgement, Implementation of ideas through leadership & management. Reflection & action, Interpersonal skills Communication & strategy	SIWES	Continue with activities that develop entrepreneurial behaviours, attributes & skills
Entrepreneurial effectiveness			SIWES	Independent self-direction Progress individual goals & approaches Implement enterprising ideas Generate business and career options Undertake new venture creation Appreciate and create multiple forms of value Identify and approach target markets

Table 10.6 Linking the development of entrepreneurial effectiveness to learning outcomes in an REM core course- Property Valuation

Key themes	Activities that apply to various student's level			
	Yr.2: Intro. to Valuation	**Yr.3: Principles of Valuation**	**Yr.4: None**	**Yr.5: Advanced Valuation**
Enterprise awareness	Guest lecture about what valuers do in the society, how to differentiate a valuer from a pretender.		Students Industrial Work Experience scheme (SIWES)	Group work/presentation:
Entrepreneurial mind-set	Search NIESV website/journals to identify sources of valuation opportunities and challenges to recognizing valuation opportunities.	Visit a real estate surveying firm, interview the principal partner to find out how they identify valuation opportunities and overcome challenges. Role playing where students act as valuation experts interfacing with a client for a valuation brief.	SIWES	
Entrepreneurial capability	Carry out calculations on the use of valuation tables using case examples of how each construct apply in real life	Make sound judgement in the absence of complete data e.g. Solve valuation case examples with limited information supplied by the course lecturer. Inspect an assigned property on campus for valuation and produce valuation inspection report.	Students Industrial Work Experience scheme (SIWES)	Work shop on the professional perspectives: the standards, codes and ethics, to be facilitated by a guest speaker from NIESV to Connect the learning in the discipline with the career distinction of graduates as observed in the industry.
Entrepreneurial effectiveness			SIWES	Implement enterprising ideas by carrying out valuation assignment professionally. Identify real estate valuation opportunities. Undertake valuation of a real property case from inspection of the property and present the report

The table shows how the key elements in developing entrepreneurial effectiveness are mapped onto the learning outcomes in a valuation course so that a student passing through the course would be enabled to manifest entrepreneurial graduate outcomes in property valuation. The key learning outcomes we target are opportunity recognition and identification, developing self-confidence, networking-working, problem solving and making sound judgement. We have carefully selected activities that will enable the students begin to develop such attributes and behaviours while they are still in the university. The entrepreneurial effectiveness development model has shown us how to effectively embed entrepreneurial ideas in the specific course in a discipline. We have demonstrated the embedding in an REM course and developed the linkages amongst entrepreneurship ideas and real estate management education and graduate outcomes.

10.7 Exemplification of Innovative Entrepreneurial Curriculum: Case Study of Property Valuation

We start by presenting the details of the curriculum for the generic entrepreneurship education to be taken by year one students and managed by the entrepreneurship studies centre in each university. We then follow this with the demonstration of embedding of activities that engender the development of entrepreneurial awareness, mindset, capabilities and effectiveness of the students. The overall objective of generic entrepreneurship education is to develop an enterprise awareness and mindset in undergraduates and equip them with the skills necessary to run a business successfully.

Graduate outcomes from REM education

The overall graduate outcomes for a bachelor's degree in Estate management are outlined under items a-m of the BMAS (2007). Among those outcomes is the graduate outcome for valuation. At the end of learning valuation in the university, graduates are expected to display skills and ability to prepare valuation of interest in landed property for all purposes.

To prepare valuation of landed property for all purposes, a graduate needs to be equipped with technical knowledge and underlying theories and principles of valuation. He also requires valuation skills-set and some additional skills-set and abilities to effectively carry out valuation to succeed in a highly competitive business environment. Our target in this research is to demonstrate an innovative curriculum that embeds the learning of entrepreneurship ideas in REM curriculum. Effective delivery of the curriculum will enable the Nigerian universities produce graduates that are equipped with mindset, skills and attributes for entrepreneurial effectiveness and self-reliance in the professional practice.

Entrepreneurial curriculum for the undergraduate REM education

Details Of The Generic Course (GST Entrepreneurship)

Unit level: Year 1 Estate Management

The aim of the course is to create awareness and provide general knowledge and understanding about entrepreneurship

Module	**Class**	**Course category**	**Course content/topics**	**Learning outcomes**	**Teaching strategies**
Introduction to entrepreneurship	1st Semester Year1	Other compulsory core course for all YR. 1 students offered as GST and managed by the university's Center for Entrepreneurship Studies.	• Concept of organisation and theories of entrepreneurship • The entrepreneurship culture. • Barriers to entrepreneurial practice generally.	On completion of this module, students would be able to: • Define an organisation and explain the concept of entrepreneurship/intrapreneurship and copreneurship. • Explain the attributes of entrepreneurial minds-strategies, habits, attitudes and behaviors that identify entrepreneurs/intrapreneur. • Describe the barriers to entrepreneurial practice in Nigeria generally.	To be taught by the university lecturers/guest lecturers using lecture, literature reviews and discussion group.
The Nigerian entrepreneurial environment.	2nd Semester, Yr.1	Same as in 1st Semester	The Nigerian business environment: • Political, legal, sociological, economic, technological etc. • Business opportunities and threats. • Strategies for exploiting opportunities in the environment. • Addressing the environmental challenges	• Discuss the key factors at work in the Nigerian business environment. • Relate how the factors influence the entrepreneurial process. • Describe the opportunities and threats in the Nigerian business environment. • Outline the strategies for identifying such opportunities/threats in the environment. • Suggest how the challenges in the Nigerian business environment could be addressed.	Same as in 1st semester above.

Source: NUC BMAS for undergraduate programmes in the Nigerian Universities, GST entrepreneurship, April, 2011, pp.2-3

Details of Embedding Entrepreneurial Skills in Property Valuation Course

This will be demonstrated in the three valuation courses provided by the BMAS, (2007) as compulsory core to be taught within the undergraduate REM programme. The undergraduate programme in (real) Estate Management is offered as a five-year programme in the Nigerian universities. Property valuation courses are offered in year two, three and five as follows:

Introduction to valuation (Yr. 2)
Principles of valuation (Yr.3)
Advanced valuation (Yr. 5)

Graduate outcomes: At the end of the undergraduate programme in REM, the graduates would be able to prepare valuation of any proprietary interest in landed property, plant and machinery for all purposes and professionally advise on their values.

Course unit 1: INTRODUCTION TO VALUATION

Unit rationale: The course is designed to introduce students to the concepts of value; enable students appreciate the impact of social, economic and technological factors on property values and to familiarize students with the basic valuation methods.

Real Estate Management – Year 2

Module	Class	Course category	Course content/topics	Learning outcomes	Teaching/Assessment strategies
Introduction to valuation 1	Year 2, Semester 1	Compulsory core course managed and taught within the department	• Economic basis of property values. • The investment market. • Asset prices and pattern of interest rates. • Incomes, prices, costs and their relation to value. **Entrepreneurial learning**: Create awareness of what enterprise and entrepreneurship means to an REM student.	At the end of this module, students should be able to: • Explain the economic bases of property valuation and define "market value". • Compare and contrast property investment with other types of investment. • Explain the determinants of asset prices and patterns of interest rates, risks and returns. • Relate each of the concepts- income, price and cost with the concept of value. **Entrepreneurial learning outcomes:** Understand what valuers do in the society, how to differentiate a valuer from a pretender.	Lectures, tutorials, group discussions. Teachers: REM lecturers; Guest entrepreneurs from real estate surveying field.
Introduction to valuation 2	Year 2, semester 2	Same as in 1st semester above.	• Principal types of landed property. • Nature of interests in landed property. • Introduction to valuation methods. • Concept of years purchase. • Construction and use of valuation table. **Entrepreneurial learning**: Begin to develop entrepreneurial mindset and skills for recognizing, evaluating and exploiting property valuation opportunities. Solve basis valuation problem.	At the end of this module, students should be able to: • List the principal types of landed property. • Describe the character of interests that can be valued. • Outline the five methods of valuation and justify when each method is best applied in valuation of different interests in landed property. • Define years purchase and explain the uses of the concept. • Define and construct the formula for the following valuation tables- Amount of N1; PV of N1; Amt. of N1 p.a. PV of N1 p.a;	Lectures, tutorial, IT workshop. Teachers: REM lecturers; IT Assistant.

				ASF; Annuity. • Apply each concept in solving practical case examples. **Entrepreneurial learning outcomes**: Search NIESV website/journals to identify sources of valuation opportunities and challenges to recognizing such opportunities. write one page report. Carry out calculations on the use of valuation tables using case examples of how each construct apply in real life.	

Note: The entrepreneurial mindset and skills are to be reinforced in the LTA of the course unit.

Course Unit 2: PRINCIPLES OF VALUATION

Unit rationale: To enable students appreciate the factors which determine values in various property markets and be competent in analyzing, assessing, ordering and interpreting new market value information and be able to undertake valuation of main property types using a range of methods.

Real Estate Management – Year 3

Module	**Class**	**Course category**	**Course content/topics**	**Learning outcomes**	**Teaching/assessment methods**
Principles of valuation1	Yr.3;1st semester	Compulsory core taught and managed by the department	• Factors affecting supply and demand for land and building • Principles of investment • Stocks and shares • Interest rates and investment yields in the property market • Property market approach to valuation **Entrepreneurial learning:**	At the end of this module, students should be able to: • Discuss the demand and supply factors that affect property values. • Understand the nature of property investment market • Apply the appropriate theories and principles of investment risks	Teaching methods: -lectures -real case examples, site visits and problem based assignments taught and managed by the REM lecturers in the department.

			To develop the mindset for entrepreneurship (2) to enable the learner appreciate: - Business relationship and networking for valuation opportunities. -Constraints facing valuation practice and how to overcome such constraints. .	and returns to solve valuation problems. • Explain and illustrate the procedure of investment method of valuation. • Calculate investment yields from analysis of property market transactions. • Solve real valuation case examples that require the use of comparative and investment methods of valuation. **Entrepreneurial L/O** Visit a real estate surveying firm, interview the principal partner to find out challenges to valuation practice and how they overcome such. Role playing where students act as valuation experts interfacing with clients for valuation brief.	Course lecturer to facilitate the interface with the industry for the interviews with principals of REM firms. Students to work in teams and submit group report.
Principles of valuation 2	Year 3; second semester	Same as in 1st semester above	• Analysis of sales and lettings of freehold and leasehold properties. • Use of valuation tables. • Effect of income tax on sinking fund. • Premium, surrender and renewal of leases **Entrepreneurial learning:** **Skills:** Reinforce critical thinking and creative problem solving skills, decision making and report writing	At the end of this module, students should be able to: • Analyse transactions in freehold and leasehold letting and sales. • Apply the appropriate valuation methods in freehold and leasehold valuations. • Demonstrate the use of dual rate tables in valuation. • Value leasehold interest with allowance for income tax. • Solve real case examples involving premium payments. • Negotiate surrender and renewal of leases and rent review cases.	Teacher: -REM lecturers from the department, -Guest lecturers who are expert in valuation and related fields. Teaching Methods: lectures; problem based learning; Role playing and reflective report (for the lease renewal/rent review negotiations).

				Entrepreneurial learning outcomes Solve valuation case examples with limited information supplied by the course lecturer. Inspect an assigned property on campus for valuation and produce valuation inspection report.	

The aim is to develop in the learner the mindset and attributes for entrepreneurial valuation practice. The teaching, learning and assessment of the module should reinforce this objective.

Real Estate Management – Year 4:

There is no valuation course for REM students in the year 4 but students participate in the Student Work Experience Scheme (SIWES) in the second semester of Year 4. The SIWES is a compulsory programme for all the REM students in their penultimate year. This provides a good opportunity for students to develop entrepreneurial and capability through guided real life experiences and practice in the industry. To deepen the development of entrepreneurial capability, the students should be attached to relevant REM organisation where they would be exposed to valuation and other core areas of professional practice.

The assessment criteria for SIWES

Students on completion and returning from the SIWES programme should be able to:

1) Submit individual business plan relating to real estate surveying practice.
2) Report from the industry based supervisor about the student's enterprise behaviours, skills and attributes about entrepreneurship.

Course unit 3: ADVANCED VALUATION

Real Estate Management: Year 5

Unit rationale: The course is designed to integrate the background knowledge from units 1 and 2 with the specific statutory and regulatory requirements to enable students to value the principal types of specialized property for statutory and non-statutory purposes including asset valuations.

Module	Class	Course category	Course content/topics	Learning outcomes	Teaching/assessment strategies
Advanced valuation1	Year 5; first semester	Compulsory core taught and managed by the department	• Valuation for compulsory acquisition and compensation • Valuation of property assets of a company. • The role of a valuer in the property market. • Trends in valuation. **Entrepreneurial Learning:** Developing independence, self-direction, progressing individual goals and approaches. Learn Institutional requirements for setting up valuation firms- the NIESV, ESVARBON, CAC.	At the end of this module, students would be able to: • Discuss the relevant statutory provisions for compulsory acquisition and compensation valuations • Categorize the valuable assets of a company. • Discuss the role of a valuer in the property market. • Analyse the trends in rental and capital values of the various interests in property. **Entrepreneurial learning outcomes** Understand the professional perspectives-the valuation standards, codes and ethics. Students to write group reflective report which individuals will present	Lectures, Problem solving exercises. Role playing/simulations; seminars and group presentations by students. Work shop on the professional perspectives: the standards, codes and ethics, to be facilitated by a guest speaker from NIESV.

Advanced valuation 2	Year 5, second semester	Same as in 1st semester above	• Appraisal of development projects. • Mineral valuations. • Capital budgeting, cash-flows. • Techniques in residual valuation. • Valuation of specialized properties-petrol stations, hotels, plant and machinery, easements etc. • Valuation standards **Entrepreneurial learning:** To enable the learner make connections between the valuation concepts, principles and the world of practice. Develop entrepreneurial valuation services as intrapreneur in existing REM firm.	Implement enterprising ideas by carrying out valuation assignment professionally. Identify real estate valuation opportunities. Undertake valuation of a real property case from inspection of the property and present the report	Teaching methods: Lectures, Problem based methods -site visits/project based learning -use of case studies. Seminars/presentations.

Note: The entrepreneurial mindset, capabilities and effectiveness are to be reinforced in the LTA of the course unit.

Notes:

1. *In developing the curriculum, we have implemented the valuation contents for years 2, 3, and 5 based on the BMAS (2007) and made contributions in the development of the learning outcomes for the specified years (Yr.2, Yr.3 and Yr.5).*
2. *The curriculum for GST entrepreneurship course has been included to give the course lecturers an idea of what the students already know about entrepreneurship to enable them reinforce the concepts in the teaching of the core REM courses.*
3. *The linkage chart for developing entrepreneurial graduate outcomes illustrated in table 10.6 above is also useful for the curriculum delivery to enable the lecturer structure the learning activities that will deliver the desired entrepreneurial mindset, skills and attributes and ultimately produce effective entrepreneurial graduates.*

Assessment objectives and methods

The assessment objective for the valuation units is to ensure that each student is tested over the range of knowledge, skills and abilities as identified under the learning outcomes. The assessment of students will seek to establish the following criteria as evidence of knowledge of concepts, theories and principles of valuation; evidence of competence in application of valuation techniques and skills; and evidence that the study is informed by entrepreneurial learning and ability to identify entrepreneurial needs and apply the result in practice.

The methods of assessment are:

1. **Examination (60% weighting)**

   This is the usual end of semester examination independently written by students under controlled conditions of time, location and access to materials. The questions should be structured to review student's broad learning in each unit and demonstrate ability to apply valuation theories and principles to solve practical valuation problems.

2. **Course work**

   a) Test and quizzes (10% weighting)

   This should be in form of responses to short tests and quizzes held in the classroom at intervals during the semester. The test is intended to test students understanding of some topics or to check on student's progress.

   b) Assessment of Portfolio activities (30% weighting)

Typically, this should include a collection of those activities in the learning outcomes carried out by students. Examples are submission of attempted solution to portfolio of exercises done at the end of each week and reflective report specifying what the student learnt in each unit, difficulties experienced and how such challenges were resolved. The aim is to test the student's diverse skills like technical skills, entrepreneurial skills, critical thinking, creative problem solving etc. The activities should be accorded reasonable weighting in the overall students' assessment to motivate students to show commitment.

10.8 Summary and Conclusion

This chapter has presented the critical discussion of the nature of gaps in the learning and practice in the REM education, critically mapped the gaps with the theoretical five gaps in learning identified in Light and Cox, (2005) and an additional gap – entrepreneurial learning gap as a sixth gap. By discovering the existence of entrepreneurial learning gap as another gap that exists in a learning literature, this research makes a new contribution to knowledge. The chapter argues that the best way to close the gaps in REM education is to embed the learning of entrepreneurial competences in the REM curriculum and the delivery of the new curriculum using innovative pedagogies.

The chapter explores the nature of the emergent entrepreneurial curriculum which adopts a mixed approach and mixed pedagogies to entrepreneurship education and exemplifies the new curriculum in a case study of a core REM course- property valuation. With the exemplification of innovative curricula, the chapter makes a practical contribution which provides a handle to REM academics for delivery of the new curriculum and which can also be copied over to other core REM courses.

We want to conclude this chapter with a question, "what then does the new curriculum do for the learner?" Equipping the learner with skills and competences for being professional and more is what the entrepreneurial curriculum we have developed in this thesis is all about. It is about equipping the learner with the requisite skills and competences for being a REM professional in a thoroughly professional way. Entrepreneurialism provides the extra bit, the skills and behaviour to challenge the rules for a positive result and this mark out a professional for distinction and excellence in the specific chosen career path. What makes the difference is the possession and application of entrepreneurial mindset, capabilities and effectiveness in the context of the student's chosen career choice which the research has shown us that it is lacking in REM education and practice.

The fact that entrepreneurship is inter-multi-disciplinary makes it possible for every discipline to draw from it, the education should be contextual. This will enable students to be equipped with entrepreneurial skills and behaviour and be taught how to apply such

competences in the context of their subject matter of study in the university. This has not happened before because the nature of entrepreneurship education that happens in the Nigerian universities at the moment only succeeds in equipping students/graduates with entrepreneurial skills in a very generic sense.

We have demonstrated how to do this in the context of real estate management education such that when implemented, the universities will produce a different kind of REM graduates well equipped to manifest entrepreneurial mindset and behaviour in REM practice.

All the professional practice needs to do is to build on developing real estate entrepreneurial mindset, capabilities and effectiveness of the young graduates because the university education has already laid a sound foundation for development of those ideas and behaviours.

CHAPTER 11: CONCLUSIONS AND RECOMMENDATIONS

11.1 The main findings of the research

One of the key findings of this research is that the theoretical learning gaps (the five learning gaps) that could exist in any discipline to prevent effective education exist in real estate management. The gaps are particularly more manifest on the last three learning gaps identified in Light and Cox (2005), which are more directly linked to entrepreneurial learning gaps. These three gaps refer mainly to learners' capacities to intend to act on their learning and to actually carry out this intention. Hence, a major contribution of the research is the identification of entrepreneurial learning gap among REM graduates.

The research also showed that REM academics and practitioners do not fully understand the difference between entrepreneurial skills and REM professional skills, to the extent that the practitioners suggested that entrepreneurial training should not be embedded in REM curriculum. The implication of this vagueness on the part of academics and practitioners is far reaching for the future of REM education in Nigeria. This is because it is difficult to see how entrepreneurial innovations in REM education could be achieved in Nigerian universities if it has to be delivered by staffs who do not fully understand its ramifications. This calls for a re-education of the academics and practitioners themselves, and an integrated revision of both the academic and professional REM curricula in such a way that the training of academics and professionals alongside that of the students is achieved.

At the practical level of action setting towards realising an improved and entrepreneurial REM education in Nigerian universities (and by creative adaptation the entire higher education system), the research outlined the nature and content of such a curriculum using a core REM course, Property Valuation and Management. The curriculum is linked to a wide spectrum of LTA ideas which inform entrepreneurship REM education.

11.2 Contributions to knowledge linked to research objectives

The multi-methodology and mixed methods as discussed in Chapters 4 and 5, and fully implemented in Chapters 6-8 of the thesis is a major contribution to knowledge in the area of research methodologies. For example the use of frameworks and linkages to implement the multi-methodology and mixed-method in this study contributes to the methodological development in embedding entrepreneurship education in specific discipline. The methodological map developed in Chapter 4 of the thesis illustrates how the research objectives and the associated research questions are explored using mixed methodology.

The methodological framework gives an overview of the linkages in a way that is easy to understand and systematically follow through.

The questionnaire item linkage map also presented and discussed in chapter 4 illustrates how each questionnaire item is linked to the research objectives and research questions. This contributes an easy way of seeing at a glance where each item comes into the various stages of the entire research work. It also helps to trace the relevance and the critical insights each item brings into the entire research map. This way, the questionnaire item linkage analysis makes the data analysis and the discussion of the results more focused. An interesting methodological contribution in this regard is how to statistically analyse ordinal Likert scale data more meaningfully, and in such a way that the results and insights are triangulated across different types of respondents.

The philosophical framework for the linkage of the key research themes- entrepreneurship, REM education and professional practice, developed in Chapter 5 of the thesis also contributes to the methodological development of how to study wide range of research themes and still achieve depth in the research.

Most importantly, ideas from the QAA model for linking the development of entrepreneurial effectiveness to graduate outcomes were used to develop similar linkages of entrepreneurial effectiveness to graduate outcomes in REM discipline and in specific REM core courses. The development of entrepreneurial curriculum for REM contributes to the methodological development of research in the area of discipline-based entrepreneurship education and embedding entrepreneurial learning in specific disciplines and their core courses.

The significance of this contribution to higher education research, pedagogy and practice is also that this is the first time entrepreneurship research at doctoral level is conducted in a niche area involving the embedding of such skills directly into the curricula of a discipline, not only for a particular level of learning, but also across an entire course of study. The research therefore also contributes conceptually to the literature on discipline-based entrepreneurship education which is presently sparsely empirically researched.

An additional contribution in this regard is the manner the students' entrepreneurship skills continue to be reinforced in their professional practice as a result of the effect of the research results on revised professional standards.

The theoretical contributions of the research to knowledge consist in a deeper understanding of the links among the three key themes of the research; entrepreneurship ideas, real estate management education and practice (see the Conceptual framework for the linkages in Chapter 5 and detailed discussion of the results in Chapter 9 of this thesis).

Particularly, work on RQ1 provides the stakeholders with in-depth knowledge of the links between entrepreneurship ideas and real estate management (REM) education. Understanding such links gave us insight into the nature of curriculum innovations required to make real estate management education more entrepreneurial to improve the quality of graduates.

Additional to this theoretical understanding of the links between entrepreneurship and real estate management education, work on RQ2 explores gaps in professional practice revealed by real estate management graduates, and how entrepreneurship education could be used to address those gaps.

Furthermore, work on RQ3 relates the gaps in professional practice to gaps in real estate management education, and explores improvements in the real estate management curriculum required to address the gaps.

As noted above, this is the first study that provides a combined understanding of relationships amongst the three themes and their implications for overcoming gaps in the learning and practice of real estate management. Most current works as surveyed in the literature review in Chapter 2&3 of this thesis focus on the themes singly. This does not provide as rich a set of insights from the works as a combined focus for effective higher education policy, as in this research.

To reiterate earlier remarks, the practical significance of the research results is primarily their use in improving professional practice in real estate management through corresponding innovations in the curriculum.

But a problematic of the innovations is how real estate management academics can effectively implement them in practice. Hence, the main practical significance of the study is through the research results on RQ4, which exemplify pathways for curriculum innovations using case study of property valuation- a core course in real estate management.

The case illustrations can be copied over to other core courses in the discipline and other Built Environment fields such as architecture, urban and regional planning and quantity surveying and even to non-professional disciplines. It is for this reason that a case study of how the curriculum innovations could be instituted in a core REM course (also adaptable to the other core courses in REM or other disciplines) is provided in Chapter 10 of this thesis. By applying the insights from the research results in revising the curricula of those disciplines which are viewed as far less innately entrepreneurial compared to REM and business disciplines, the research will support a process of providing useful (self) employment to many unemployed Nigerian graduates, especially those in non-professional disciplines like statistics and mathematics.

Hence, the research is foundational for achieving needed improvements in the study of such a wide field of disciplines in Nigeria and other developing countries. The fact that entrepreneurship is inter-multi-disciplinary makes it possible for every discipline to draw from it and adapt to the specific discipline or countries education context.

11.3 Policy implications

We reiterate the view that the research is useful to key stakeholders in Nigeria as follows. For example, students benefit from quality education that addresses perceived weaknesses in the way real estate management is learnt in Nigerian universities. Consequently, Nigeria as a nation benefits from an improved intellectual capital in the Built Environment fields of learning. These benefits also address the problem of mass graduate unemployment since better trained graduates from the new curricula are inherently more (self) employable.

The following notes reinforce the expected stakeholder gains from the study.

With the innovative curriculum, students are better trained and better equipped with entrepreneurial skills that enable them manifest entrepreneurial spirit in the world of work. With such skills they can competently set up their own practice (in line with the professional guidelines) as entrepreneurs, or partner with others as co-preneurs or be innovative in their employers' organisation as intra-preneurs.

This meets the NUC objective of enabling the university system in Nigeria produce high quality graduates that have relevant industry skills and the capacities to compete favourably in national and international work environments.

Academics also stand to benefit from this work by becoming innovative and entrepreneurial in the course of training and retraining to implement the new REM curriculum.

The Nigerian Institution of Estate Surveyors and Valuers (NIESV) and the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) have in different fora and professional circles noted the lack of enterprise skills in real estate management curriculum and low quality of graduates from Nigerian universities in recent times. The key outcome of this research - a new curriculum that integrates entrepreneurship in the context of REM discipline - is expected to address both issues. These professional bodies, therefore, benefit from the study through potential human capital improvement in real estate practice that helps to reduce the problem of graduate unemployment and the menace of perceived quacks in real estate practice.

Similarly, the Federal Government of Nigeria stands to gain from contribution of this research to human capacity empowerment, reduction in the problem of graduate unemployment and thereby adding to economic development of Nigeria as a whole.

To realise these gains, the research results have implications for workshops aimed at capacity building in higher education as regards the training and retraining of REM academics and students on the use of mixed and innovative pedagogies for effective delivery of the new curriculum.

The research also has implications for education policy makers to update the guidelines for discipline based entrepreneurship education to international best practices, and enforce the implementation of the new standards by the universities.

In conclusion, using the criteria outlined in Chapter 4 for evaluating qualitative research, we state that:

- The research methodology resonates with the qualitative nature of the study which explores the beliefs and experiences of the studied questions using a mixture of close- and open-ended questions.
- The research has achieved a strong rhetorical tone through the detailed methodological mappings presented in Chapter 4 of the thesis.
- As noted in the above action-setting implications of the research and the suggestions for further work summarised below, the research has a strong potential to empower action among a wide spectrum of higher education and practice policy makers.
- The applicability of the research not only to REM education, but also other courses and its benefits to many key stakeholders is clearly noted above.

A key rationale for this research is that Nigerian higher education urgently requires a kind of mass professionalization of the disciplines which currently produce an alarming number of unemployed graduates. The nature of innovations in a country's education system affects the quality of graduates and matters significantly to the development of the country's workforce. It is a known fact that a country's education system impacts on the quality of graduates and the wider socio-economic development of the country. Every county in the world uses entrepreneurial effectiveness to develop its workforce to be wealth creators. By properly embedding entrepreneurship in the discipline curricula, the Nigerian universities are enabled to produce a unique kind of graduates that are well equipped to become good wealth creators from the disciplinary knowledge.

Other African countries or some other developing countries whose education systems have similar problems as Nigeria can also apply the ideas in this research to improve their education system and develop their work force to be entrepreneurial. The research therefore has practical implication for developing discipline based entrepreneurial curricula

with the teaching and learning of the skills embedded in core modules. Empirical research in this area is still very sparse in Nigeria or anywhere else.

11.4 Recommendations and suggestions for further study

It is recommended that entrepreneurship education should adopt a mixed approach which embeds the generic skills into the discipline curricula. In terms of the mechanics for achieving this kind of full-spectrum training in entrepreneurship skills in Nigerian higher education, it is noted that the research adduces sufficient evidence in support of a mixed model of pedagogy, whereby the foundational business start-up elements of the training (typically referred to as enterprise as opposed to entrepreneurial education) are taught in Centres of Entrepreneurial Studies in the institutions, while students learn how to use technical subject-based knowledge to become entrepreneurial when the skills are reinforced in specific course curricula.

The entrepreneurial curriculum can be adapted to curricula of other university disciplines especially single honours and supposedly non-professional courses. By applying the insights from the research results in revising the curricula of those disciplines which are viewed as far less innately entrepreneurial compared to REM and business disciplines, the research will support a process of providing useful (self) employment to many unemployed Nigerian graduates, especially those in non-professional disciplines like statistics and mathematics.

As mentioned above, there is need to replicate the study in a wide range of disciplines to build on the result of this research which is foundational. For REM education, such replication will detail how the recommended LTA strategies should be practically implemented in other courses, taking account of the differences in content and resource requirements of the courses. There is also an opportunity to replicate the study in other disciplines like STEM subjects (science, technology, engineering and mathematics), and social sciences in Nigerian universities. It can also be replicated in other countries where the education system presents similar problems to that of Nigerian education system in order to build on the result of this research which is foundational and to ensure the validity and reliability of the results for policy actions.

Furthermore, research should also be carried out to understand the environmental, infrastructural and human capital resources required to implement discipline entrepreneurial curriculum and the pathways for building the required capacities, for example mandatory subject-based postgraduate professional certificates incorporating entrepreneurial skills, seminars, workshops, conferences, and CPD courses.

Limitation of the research

The fact that the research is foundational is a limitation to the study. The research has looked at gaps in the REM discipline with the curriculum innovations required to close the gaps exemplified in a core course in the same discipline in Nigeria. Being a baseline study, the research lacks external validity and it may not be adequate to base policy implications on just one study. This implies the need for the research to be replicated in related profession-based disciplines and even in single honour disciplines as suggested above to ensure the validity of the result for policy actions.

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APPENDICES

APPENDIX 1

ANALYSIS OF SURVEY OF ACADEMICS: SUMMARY OF OVERALL ARITHMETIC MEAN INDEX AND T-STATISTICS FOR THE SURVEY OF REM ACADEMICS					
Item	**Description**	**Statistics/Mean**	**Interpretation**	**Significance(P-value)**	**Inference/decision**
bmstd	NUC standard curriculum	0.93			
aqual	Academic qualifications	2.25			
pqual	Professional qualifications	1.32			
tqual	Teaching qualifications	2.95			
coret	Core REM courses taught by lecturers	N/A			
entcat	Course category of entrepreneurship education	2.98			
concltp	Learning is information about theory and practice	4.2045	indicates strong agreement	p=0.000; < 0.001	Result is very highly significant
conclmr	Learning is memorizing and reproduction of information	2.41	Indicates weak support	p=0.001; < 0.01	Result is highly significant
conclaa	Learning is acquisition and application of facts	4.61	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
conclsi	Learning is synthesis and interpretation	3.77	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
conclgu	Learning as gaining understanding	3.61	Indication of strong support	p=0.000; < 0.001	Result is very highly significant
conclms	Learning as stimulation of multiple senses	4.00	Indicates very strong agreement	p=0.000; < 0.001	Result is very highly significant
tmlect	Teaching methods: Lecture method	4.18	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
tmpbas	Problem based method	3.77	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
tmftrip	Field trips and site visits	3.05	Indicates strong support	p=0.736; > 0.05	Result is highly insignificant
tmsap	Seminars and presentations	3.00	indicates strong support	p=1.00; > 0.05	Result is highly insignificant
tmtrans	Use of transactional objects	2.00	Indicates weak support	p=0.000; < 0.001	Result is very highly significant
tmentre	Guest entrepreneurs with REM practice experience	2.43	Indicates weak support	p=0.000; < 0.001	Result is very highly significant
tmrpsim	Role playing and simulation	2.75	Indicates weak support	p=0.279; > 0.05	Result is highly insignificant
tmrepw	Reports, term papers and essay writing	4.14	indicates very strong support	p=0.000; < 0.001	Result is very highly significant

tmtasks	Student self-selected tasks and timely reports	3.34	Indicates strong support	p=0.087; > 0.05	Result is insignificant
tmsteam	Student paired or teamwork	3.80	indicates strong support	p=0.000; < 0.001	Result is very highly significant
tmtimfed	Timely and relevant feedback from students teams	3.52	Indicates strong support	p=0.001; < 0.01	Result is highly significant
fraconfi	Frequently reinforced attributes - Ability to relate confidently with clients	4.14	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
fradirm	Give direction and motivate group	3.48	Indicates strong support	p=0.008; < 0.01	Result is highly significant
frapsol	Solving problems from new perspectives	3.98	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
frarisk	Courage to fail in attempt to improve	3.09	Indicates strong support	p=0.543; > 0.05	Result is highly insignificant
fracreat	Encouarging creativity	3.91	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
framdl	Working strategically to achieve deadlines	3.84	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
frateam	Team working	3.8	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
frasmtag	Setting and achieving targets	3.77	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
fraoport	How to recognize and exploit opportunities	3.93	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
framse	Wisdom to seek advice	4.11	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
fravent	Starting new ventures that succeed	3.77	indicates strong support	p=0.000; < 0.001	Result is very highly significant
pratent	Preferred approach to entrepreneurship education	N/A			
entmset	Entrepreneurial mindset and attributes	4.36	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entcel	Confidence, efficacy and leadership	4.52	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entbpp	How to develop real estate business plans	4.45	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entvcap	Sources of venture capital	4.32	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entrcu	Managing risks, complexity and unpredictability	4.27	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entribus	Business literacy	4.48	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
enttim	Time management and career opportunities	4.34	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entoppt	Discovery and exploiting wealth creation opportunities	4.34	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entntwk	Social capital and networking	4.27	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant

entbpart	Entrepreneurial business partnership	4.48	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
entnego	Negotiation skills	4.55	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
prfltc	Preffered Entr. teacher: Core REM courses lecturers	4.30	Indicates strong support	p=0.350; > 0.05	Not significant
prflrd	Elective course lecturers in related departments	3.82	Indicates weak support	p=0.561; > 0.05	Not significant
prfltced	Lecturers trained by special units such as CEE	4.61	Indicates strong support	p=0.045; < 0.05	Result is significant
prflbf	Lecturers from business faculty	3.70	Indicates weak support	p=0.331; > 0.05	Not significant
prflcep	Core REM course lecturers supported by REM practitioners	4.43	Indicates strong support	p=0.240; > 0.05	Not significant
prfinvp	Only estate surveyors and valuers in practice	4.42	Indicates strong preference	p=0.467; > 0.05	Not significant
prfexent	Experienced entrepreneurs from any industry	3.89	Indicates weak preference	p=0.726; > 0.05	Not significant
ascritex	Assessment criteria: written examination	4.75	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritst	Laboratory/studio reports	2.57	Indicates weak support	p=0.048; < 0.05	Result is significant
ascritqz	Formal quizzes and tests	4.11	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritat	Attendance to lectures	4.11	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascrites	Essay assignmenst/term papers	4.11	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritps	Problem solving assignments	4.07	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritts	Timely and relevant feedbacks from students	3.27	Indicates strong support	p=0.135; > 0.05	Result is insignificant
ascritop	Oral presentations	3.32	Indicates strong support	p=0.037; < 0.05	Result is significant
ascritgp	Group project work	3.64	Indicates strong support	p=0.000; < 0.001	Result is very highly significant
ascritlp	Individual project work	4.18	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritsw	Report on external placement(SIWES)	4.11	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascriter	External examiner's report	4.00	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant
ascritsa	Student's self-assessment	2.93	Indicates weak support	p=0.762; >0.05	Result is very insignificant
refleskn	Reinf'd learning components: Subject knowledge	4.59	Indicates very strong support	p=0.000; < 0.001	Result is very highly significant

APPENDIX 2

ANALYSIS OF STUDENTS SURVEY: SUMMARY OF OVERALL MEAN INDEX AND T-STATISTICS					
Item	**Description**	**Mean Index**	**Interpretation**	**P-Value**	**Inference**
conexptp	Conceptions: Learning is info about theo. & practice	3.86	Indicates strong support	p=0.000; <0.001	Very highly significant
conexpmr	Memorizing and reproducing information	3.40	Indicates strong support	p=0.000; <0.001	Very highly significant
conexpaa	Acquisition and appplication of facts	4.29	Very strong support	p=0.000; <0.001	Very highly significant
conexpsi	Identifying and solving problems	3.84	Indicates strong support	p=0.000; <0.001	Very highly significant
conexpgu	Gaining understanding in a different way	3.88	Indicates strong support	p=0.000; <0.001	Very highly significant
conexpms	Stimualtion of multiple senses	4.19	Indicates very strong support	p=0.000; <0.001	Very highly significant
tmlect	Teaching methods: Lecture	4.12	Indicates very strong support	p=0.000; <0.001	Very highly significant
tmpbas	Problem based method	3.28	Indicates strong support	p=0.000; <0.001	Very highly significant
tmtutor	Tutorials	2.35	Weak support	p=0.000; <0.001	Very highly significant
tmftrip	Seminars and presentations	2.03	Weak support	p=0.000; <0.001	Very highly significant
tmsap	Seminars and presentations	2.18	Weak support	p=0.000; <0.001	Very highly significant
tmtrans	Use of transactional objects	1.24	Weak support	p=0.000; <0.001	Very highly significant
tmentre	Guest entrepreneurs in real estate practice	2.14	Weak support	p=0.000; <0.001	Very highly significant
tmrpsim	Role playing and simulation	2.11	Weak support	p=0.000; <0.001	Very highly significant
tmrepw	Reports and essay writing assignments	4.29	Indicates very strong support	p=0.000; <0.001	Very highly significant
tmtasks	Student self selected tasks	2.82	Weak support	p=0.027;<0.05	Result is significant
tmsteam	Students paired or group assinments	3.60	Indicates strong support	p=0.000; <0.001	Very highly significant
tmtimfed	Timely feedbacks from studenst teams	3.21	Indicates strong support	p=0.004; <0.01	Highly significant
fraconfi	Reinforced attributes: How to relate confidently with clients	3.68	Indicates strong support	p=0.000; <0.001	Very highly significant
fradirm	Give direction and motivate groups	3.43	Indicates strong support	p=0.000; <0.001	Very highly significant
frapsol	Approach and solve problems from new perspectives	3.35	Indicates strong support	p=0.000; <0.001	Very highly significant
frarisk	Taking risks, couarge to fail in attempt to improve	2.42	Weak support	p=0.000; <0.001	Very highly significant
fracreat	Encouraging creativity	3.25	Indicates strong support	p=0.001; <0.01	Highly significant
framdl	Working strategically to achieve deadlines	3.96	Indicates strong support	p=0.000; <0.001	Very highly significant
frateam	Team working	3.69	Indicates strong support	p=0.000; <0.001	Very highly significant

frasmtag	Setting and achieving targets	3.41	Indicates strong support	p=0.000; <0.001	Very highly significant
fraoport	Recognizing and exploiting opportunity	3.67	Indicates strong support	p=0.000; <0.001	Very highly significant
frawise	Wsidom to seek advice	3.88	Indicates strong support	p=0.000; <0.001	Very highly significant
fravent	Knowledge and skill to start new ventures and succeed	3.51	Indicates strong support	p=0.000; <0.001	Very highly significant
pratent	Preferred approach to enterpreneurship education	N/A		N/A	
entmset	Content: how to develop entrepreneurial mindset	4.26	Indicates very strong support	p=0.000; <0.001	Very highly significant
entskatt	how to develop entrepr. skills and attributes for REM	4.07	Indicates very strong support	p=0.000; <0.001	Very highly significant
entcel	Self confidence, efficacy and leadership	4.21	Indicates very strong support	p=0.000; <0.001	Very highly significant
entbpp	Real estate business plan	4.24	Indicates very strong support	p=0.000; <0.001	Very highly significant
entvcap	Real estate venture capital	4.20	Indicates very strong support	p=0.000; <0.001	Very highly significant
entrcu	Managing risks, complexity and unpredictability	4.27	Indicates very strong support	p=0.000; <0.001	Very highly significant
entribus	Business literacy	4.35	Indicates very strong support	p=0.000; <0.001	Very highly significant
enttim	Time management	4.25	Indicates very strong support	p=0.000; <0.001	Very highly significant
entoppt	Discovery and exploiting opportunities	3.98	Indicates strong support	p=0.000; <0.001	Very highly significant
entntwk	Social capital and networking	4.36	Indicates very strong support	p=0.000; <0.001	Very highly significant
entbus	Setting up sole business and partnerships	4.17	Indicates very strong support	p=0.000; <0.001	Very highly significant
entnego	Negotaition skills	3.71	Indicates strong support	p=0.000; <0.001	Very highly significant
prefcore	Prefered teacher-REM core course lecturers	4.04	Indicates strong support	p=0.780; >0.05	Insignificant
prefelect	Elective course lecturers from related depts.	3.49	Weak support	p=0.001; <0.01	Highly significant
prefcee	Lecturers from university's entrepreneurship unit	5.12	Indicates strong support	p=0.000; <0.001	Very highly significant
prefbuss	lecturers from business faculty	3.79	Indicates weak support	p=0.155;>0.05	Result is insignificant
prefcorp	Core REM course lecturers and REM practitioners	5.62	Very strong support	p=0.000; <0.001	Very highly significant
prefprinc	Only principals of REM firms	5.16	Very strong support	p=0.000; <0.001	Very highly significant
prefient	Experienced entrepreneurs from any industry	4.79	Strong support	p=0.000; <0.001	Very highly significant
proentr	Is REM profession inherently entrepreneurial	N/A		N/A	N/A
ascritex	Assessment criteria: Written exam	4.26	Indicates very strong support	p=0.000; <0.001	Very highly significant
ascritst	Lab and studio reports	1.84	No support	p=0.000; <0.001	Very highly significant
ascritqz	Quizzes and tests	3.72	Indicates strong support	p=0.000; <0.001	Very highly significant

ascritat	Lecture attendance	4.34	Indicates very strong support	p=0.000; <0.001	Very highly significant
ascrites	Essay assgnmenst and term papers	4.15	Indicates very strong support	p=0.000; <0.001	Very highly significant
ascritps	Problem solving assignments	3.80	Indicates strong support	p=0.000; <0.001	Very highly significant
ascritts	Timely submission of assignments	2.73	Weak support	p=0.000; <0.001	Very highly significant
ascritop	Oral presentation	2.88	Weak support	p=0.051; >0.05	Result is insignificant
ascritgp	Group project work	3.80	Indicates strong support	p=0.000; <0.001	Very highly significant
ascritlp	Individual project work	3.81	Strong support	p=0.000; <0.001	Very highly significant
ascritsw	Reports on external placement	4.13	Indicates very strong support	p=0.000; <0.001	Very highly significant
ascriter	External examiners reports	2.91	Weak support	p=0.303; >0.05	Result is insignificant
ascritsa	Students self assessment	2.99	Weak support	p=0.927; >0.05	Result is insignificant
gradpcis	Professional competency skills: ability to identify and solve problems	3.68	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcpp	Ability to relate principles to practice	3.88	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcwc	Written communication skills	3.67	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcoc	Oral communication skills	3.73	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcri	Keeping accurate records of deep insights	3.79	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcps	Understanding and keeping to the rules of practice	4.09	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradpcdt	Identify and use data collection tools	3.86	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcdi	Accurate data interpretation	3.94	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcnc	Numeracy and familiarity with calcualtions	3.96	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcrk	Meticulous and organised in record keeping	3.55	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcoa	Orderly approach to problem solving	3.68	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcnw	Good networking skills	3.85	Indicates strong support	p=0.000; <0.001	Very highly significant
gradpcit	ICT proficiency	3.68	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvaic	Valuation skills: Identify clients, purpose and dates of valuation	4.71	Indicates very strong support	p=0.000; <0.001	Very highly significant
gardvaim	Interprete market forces that affect values	4.00	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvabc	Understands the basis of property comparism	4.35	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvams	Adequate measurement and sketching of property	4.13	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvadc	Skills for collection of market data	3.93	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvaai	Analysis and interpretation of data	3.99	Indicates strong support	p=0.000; <0.001	Very highly significant

gradvanq	Numeracy and quantitative	3.89	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvasm	Applies suitable methods and techniques	3.71	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvarl	Understands the laws that regulates valuation	3.34	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvabm	Differenciates between basis and methods	4.34	Indicates very strong support	p=0.000; <0.001	Very highly significant
gardvaiw	Can write interim valuation reports	4.07	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvapd	Demonstrates property description skills	4.41	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvarc	Communicates valuation reports to clients	4.44	Indicates very strong support	p=0.000; <0.001	Very highly significant
gradvamf	Micro and macro factors integral to property valuation	3.97	Indicates strong support	p=0.000; <0.001	Very highly significant
gradvaep	Compliance to ethical practice	4.16	Indicates very strong support	p=0.000; <0.001	Very highly significant

APPENDIX 3

SUMMARY OF THE OVERALL ARITHMETIC INDEX FOR THE SURVEY OF THE REM PRACTITIONERS					
Item	**Description**	**Mean Index**	**Interpretation**	**Significance (P-values)**	**Inferences**
ppgrad	principal partner's year of graduation	N/A			
prostaff	professional staff in the firm	0.27	On the average, 5 prof. in a firm	p=.000	
copra	core areas of professional practice	N/A			
empgrads	Young graduate employed or supervised	0.37	5, young graduates in each firm on the average	p=.000	
demotkcp	Graduates overall demonstration of technical know how of core practice	4.01	Indicates very strong support	p=.000<0.001;	Result is very highly significant
demovaic	valuation skills: identify client, purpose and date of valuation	2.94	Indicates weak support	p=.624>0.05	Ressult is insignificant
demovaim	ability to iterprete the market	3.22	Indicates strong support	p=.111>0.05	Result is Insignificant
demovabc	knows the basis of value/property commparison	3.09	Indicates strong support	p=.527>0.05	Result is Insignificant
demovams	Can measure and sketch property	3.26	Indicates strong support	p=.082>0.05	Result is Insignificant
demovacd	Collects reliable valuation data	3.09	Indicates strong support	p=.549>0.05	Result is Insignificant
demovaai	Can analyse supporting Valuation data and interprete result	3.46	Indicates strong support	p=.004<0.05	Result is significant
demovanq	Numerate and thinks quantitatively	3.26	Indicates strong support	p=.082>0.05	Result is Insignificant
demovasm	Applies suitable methods	2.94	Indicates weak support	p=.624>0.05	Result is Insignificant
demovarl	Knows the laws that regulate property values	3.26	Indicates strong support	p=.082>0.05	Result is Insignificant
demovabm	Can differentiate between basis and methods	3.40	Indicates strong support	p=.008>0.05	Result is Insignificant
demovapd	Can describe property accurately	3.09	Indicates strong support	p=.527>0.05	Result is Insignificant
demovamf	Ability to describe micro and macro value factors	3.32	Indicates strong support	p=.031<0.05	Result is significant
demovaec	Complies with ethical standards	3.00	Indicates support	p=1.000>0.05	Very highly insignificant
demopcis	Pro. competency skills: ability to identify and solve problems	3.86	Indicates strong support	p=.000<0.001	Very highly significant
demopcbt	Ability to give background of tasks	3.87	Indicates strong support	p=.000<0.001	Very highly significant
demopcea	Evaluate and analyse methods, time and task results	3.76	Indicates strong support	p=.000<0.001	Very highly significant
demopcpi	identify extent of personal involvement in team work	3.49	Indicates strong support	p=.000<0.001	Very highly significant
demopcw	written communication skills	3.51	Indicates strong support	p=.000<0.001	Very highly significant
demopcoc	oral communication skills	3.55	Indicates strong support	p=.000<0.001	Very highly significant
demopcap	ability to anlyse practical projects	3.76	Indicates strong support	p=.000<0.001	Very highly significant

demopcri	ability to relate ideas and interpret results	3.87	Indicates strong support	p=.000<0.001	Very highly significant
demopcdt	can utilize suitable dat collection techniques/tools	3.45	Indicates strong support	p=.000<0.001	Very highly significant
demopcnc	numerate and familiar with calculations	3.72	Indicates strong support	p=.000<0.001	Very highly significant
demopcrk	Meticulous and organised in record keeping	3.71	Indicates strong support	p=.000<0.001	Very highly significant
demopcpa	prudence and accountability	3.78	Indicates strong support	p=.000<0.001	Very highly significant
demopctm	time management	3.56	Indicates strong support	p=.000<0.001	Very highly significant
demopcoa	Orderly approach to problem solving	3.76	Indicates strong support	p=.000<0.001	Very highly significant
demopcnw	Good networking skills	3.49	Indicates strong support	p=.000<0.001	Very highly significant
demopcit	ICT proficiency	3.51	Indicates strong support	p=.000<0.001	Very highly significant
demopces	complies with ethical standards	3.45	Indicates strong support	p=.000<0.001	Very highly significant
demorcfc	Entrepreneurial skills set: Relates confidently with clients	3.51	Indicates strong support	p=.000<0.001	Very highly significant
demorccp	Relates confidently with colleagues and other professionals	3.55	Indicates strong support	p=.000<0.001	Very highly significant
demodmg	Directs and motivates groups	3.86	Indicates strong support	p=.000<0.001	Very highly significant
demospop	Solves clients problems and explores opportunities	3.87	Indicates strong support	p=.000<0.001	Very highly significant
demotcr	Takes calculated risks	3.76	Indicates strong support	p=.000<0.001	Very highly significant
democos	Creates efficient and original solutions	3.49	Indicates strong support	p=.000<0.001	Very highly significant
demovac	Makes value adding contacts	3.56	Indicates strong support	p=.000<0.001	Very highly significant
demowpd	Works on projects within agreed deadlines	3.55	Indicates strong support	p=.000<0.001	Very highly significant
demosiqs	Shares ideas to improve quality of solutions	3.76	Indicates strong support	p=.000<0.001	Very highly significant
demoiswr	Initiative to create new solutions and the drive to work to realise it	3.87	Indicates strong support	p=.000<0.001	Very highly significant
demoreop	Recognises and exploits value adding opportunities	3.41	Indicates strong support	p=.000<0.001	Very highly significant
demowise	Wisdom to seek advice in the process of creating new solutions	3.87	Indicates strong support	p=.000<0.001	Very highly significant
demokslb	Knowledge and skills to lead successful ventures that succeed	3.76	Indicates strong support	p=.000<0.001	Very highly significant
tentcurr	teaching entrepreneurial skills in the university curricula	3.30	Indicates strong support	p=.006>0.05	Result is insignificant

APPENDIX 4A

Questionnaire to Real Estate Management (REM) academics in the Nigerian universities

Please tick X against any option that you choose.

SECTION 1: Background questions

1a. Benchmark curriculum for REM programme currently used in your department

- NUC Minimum Academic Standard(MAS) 1997
- NUC Benchmark Minimum Academic Standards(BMAS) 2007
- Other (Please specify)

1b. What are your Qualifications: (Please tick the ones that apply).

Subject matter area	**Professional**	**Teaching Qualifications**
HND B.Sc. B. Tech. M.Sc. PhD. Others (specify)……	 ANIVS. RSV. FNIVS. ……	 PGDE PGDTE NCE TTC ……

1c. Please indicate one core REM course that you teach by ticking (X) in the box provided:

i. Valuation ☐

ii. Land economics ☐

iii. Property management ☐

iv. Property development ☐

v. Others (Please specify)……..

1d. In which of the course categories is entrepreneurship currently taught to students in your institution? [Please tick all that apply]

i. Compulsory core courses offered in the department

ii. Compulsory core courses offered in cognate department
iii. Elective courses offered in cognate department
iv. Compulsory core course offered by a special unit in the institution such as the Centre for Entrepreneurship Education.
v. Elective course offered by a special unit in the institution such as the Centre for Entrepreneurship Education.
vi. Others (please specify) ----------

SECTION 2: Current Learning, Teaching and Assessment (LTA) practices among REM academics

1. Conceptions of learning

Please rate the following options in relation to your conceptions of learning in Real estate management (1 = strongly disagree and 5 = strongly agree)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Learning is gaining information about the theory and principles of a subject matter.					
Learning is memorizing and storing information that can be reproduced					
Learning is acquisition of facts, skills and methods and applying same in identifying and solving societal problems.					
Learning is relating parts of the subject matter to each other or to the whole world and abstracting meaning or making sense.					
Learning is gaining an understanding and interpretation of reality in a different way.					
Learning requires stimulation of multiple senses in the learner – the intellect, emotions, body impulses, intuition and imagination.					

2. Teaching

How often do you apply the following methods/techniques in the teaching of your chosen REM course?

	Never	Rarely	Some times	Often	Always
Lecture method					
Problem based methods like use of projects, case studies etc.					
Field trips and site visits					
Seminars and presentations					
Use of transactional objects like games e.g. Monopoly, Cash Flow 101 etc.					
Inviting guest entrepreneurs from real estate and related fields to share their real life experiences with students					
Role playing and simulations					
Engaging students in assignments that result in writing of reports, Essays, term papers /dissertation					
Engaging student's teams on self-selected tasks and receiving timely and relevant feedbacks.					
Involving students in paired or group formations					
Engaging student's teams on pre-assigned tasks and receiving timely and relevant feedbacks					

3. How often do you reinforce the following skills/attributes within the teaching of your chosen REM course?

	Never	Rarely	Some times	Often	Always
Ability to relate confidently with clients and other professionals with the assurance of having good knowledge of the requirements of specific situation and challenges					
Ability to give direction and to motivate a group of persons to achieve specific goals					
Possess skills necessary to approach and solve problems from a new perspective					
Courage to fail in attempt to improve upon the existing ways of doing things					
The courage to be different in the process of creating a more efficient and original solution					
Ability to work strategically on projects and achieving objectives within agreed deadlines					

The ease of working with others to share resources and improve on the quality of solutions					
The initiative to create new solutions and the drive to work to realise it					
Ability to recognize and exploit opportunities for a positive change					
Wisdom to seek advice from others in the process of creating new solutions					
Knowledge and skill to start new ventures that succeed					

4. Please indicate your preferred approach for entrepreneurship education in REM discipline. (Circle the number that corresponds with the option of your choice).

i. Institution-wide approach whereby a generic entrepreneurship course is offered through a special unit in the institution such as the centre for entrepreneurship education and taught to all the students in institution irrespective of discipline.
ii. Mixed approach by teaching generic concepts and principles of entrepreneurship to all year one (1) students in the institution and then reinforcing the skills further in specific core REM courses in the subsequent levels of the programme.
iii. Generic entrepreneurship course at the inception of the programme (say for all year one level students in the institution) and then developing the themes in stand-alone entrepreneurship courses in further levels of the REM programme.
iv. University wide approach whereby entrepreneurship courses are designed by the faculties and adapted to suit specific requirements of students in the participating faculties.
v. Discipline-based approach whereby a stand-alone entrepreneurship course designed specifically for REM students is introduced into the curriculum.

5. Please indicate your opinion about the ideas/contents that should be included in a typical entrepreneurship course for REM students.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
How to develop entrepreneurial mindset and behaviors					
Building self-confidence, self-efficacy and leadership skills					
How to develop real estate business plans and write proposals.					
Sources of real estate venture capital and how to access same.					

Managing risk, complexity and unpredictability in real estate.					
Business literacy including opportunity identification and exploitation, how to build, finance and grow real estate ventures.					
Time management and career opportunities in REM discipline.					
Skills for discovering, evaluating and exploiting wealth creating opportunities in REM profession					
Developing social capital, business relationship, networking skills.					
Skills for setting up real estate businesses in association/partnership with others.					
Developing negotiation skills.					

6. On a scale 1 – 7 rate the following options as to who you would prefer should teach entrepreneurship to REM students (1 = most preferred; 7 = least preferred)

i. Lecturers who teach compulsory core REM courses offered in the department	
ii. Lecturers who teach elective courses offered in cognate departments.	
iii. Lecturers trained by a special unit in the institution such as the Centre for Entrepreneurship Education.	
iv. Servicing lecturers from the business faculty	
v. Lecturers who teach core REM courses complemented by estate Surveyors and valuers in practice and other entrepreneurs.	
vi. Only Estate Surveyors and Valuers who are in Private Practice	
vii. Experienced entrepreneurs from any industry	

7. If you generally feel that the real estate profession is inherently entrepreneurial, explain how the current ways in which the discipline is taught enable the students to become entrepreneurial?

……

……

8. If you do not feel that the real estate surveying profession is inherently entrepreneurial, suggest the innovations necessary to make training in REM entrepreneurial?

……

……

9. Assessment

How often do you use the following components in the assessment of students' learning*?*

	Never	Rarely	Some times	Often	Always
Formal written examination					
Laboratory/studio reports					
Formal quizzes and tests					
Attendance to lectures					
Essay assignments/term papers					
Problem solving assignments					
Timely and relevant feedback from students					
Oral presentations					
Group project work					
Individual project work					
Report on external placement (SIWES).					
External examiner's report					
Student's self-assessment					

10. How often do you teach your chosen REM course in such a way that the students that you teach are able to demonstrate the following learning components on graduation?

	Never	Rarely	Some-times	Often	Always
Subject knowledge and understanding of theories and principles of the course					
Technical skills and abilities integral to the course (specific subject) that you teach					
Understanding of the methodologies, data collection, synthesis, evaluation and analysis in a research project					
Skills for identifying and solving real estate problems					
Ability to present facts in writing clearly, logically and without ambiguity					
Skills for starting and managing real estate enterprise					
Networking skills for interfacing with other professionals					
Skills for compliance to ethical standards					
Skills for critical thinking, critical reasoning and judgment					

Relevant ICT skills for effective real estate management					
Entrepreneurial skills of value transferable to the world of work and employment in organisations					
Ability to communicate thoughts verbally, logically and without ambiguity					
Computational and numeracy skills.					
Interpersonal Skills for working in multidisciplinary teams.					
Problem solving skills					
Time management skills					
Record keeping and accountability skills					
Skills for Continuing Professional Development					

APPENDIX 4B

Questionnaire to final year students of Real Estate Management Students in the Nigerian Universities

Please tick X against any option that you choose

Current Learning, Teaching and Assessment (LTA) practices in the REM discipline
Conceptions of learning

What do you understand by learning judging by your learning, teaching and assessment experiences in the department?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Learning is intake of information about the theory and principles of a subject matter.					
Learning is memorizing and storing information that can be reproduced					
Learning is acquisition of facts, skills and methods and applying same in identifying and solving societal problems.					
Learning is relating parts of the subject matter to each other or to the whole world and abstracting meaning or making sense.					
Learning is gaining an understanding and interpretation of reality in a different way.					
Students learn more effectively when the multiple senses in the learner – the intellect, emotions, body impulses, intuition and imagination are activated.					

1. Learning/Teaching approach

How often are you taught core courses in real estate management by the use of the following methods/techniques?

	Never	Rarely	Some times	Often	Always
Lecture method					
Use of projects, case studies					
Field trips and site visits					
Seminars and presentations					
Use of transactional objects like games e.g. Monopoly, Cash Flow 101 etc.					
Inviting guest entrepreneurs from real estate and related fields to share their real life experiences with students					
Role playing and simulations					
Engaging students in assignments that result in writing of reports, Essays, term papers /dissertation					
Engaging students on self-selected tasks for which they give timely and relevant feedbacks.					
Involving students in paired or group formations and leadership					
Engaging student's teams on pre-assigned tasks and receiving timely and relevant feedbacks					

2. How often does the way you are taught core real estate management courses reinforce the learning of the following attributes?

	Never	Rarely	Some times	Often	Always
Ability to relate confidently with clients and other professionals with the assurance of having good knowledge of the requirements of specific situation and challenges					
Ability to give direction and to motivate a group of persons to achieve specific goals					
Ability to approach and solve problems from a new perspective					
Courage to fail in attempt to improve upon the existing ways of doing things					
The courage to be different in the process of creating a more efficient and original solution					

Ability to work strategically on projects and achieving objectives within agreed deadlines					
Ability to work with others to share resources and improve on the quality of solutions					
The initiative to create new solutions and the drive to work to realise it					
Ability to recognize and exploit opportunities for a positive change					
Wisdom to seek advice from others in the process of creating new solutions					
Knowledge and skill to start new ventures that succeed					

3. What approach would you prefer for entrepreneurship education for estate management students? (Circle the number that corresponds with your preferred approach).

i. Institution-wide approach whereby a general entrepreneurship course is offered through a special unit in the institution such as the centre for entrepreneurship education and taught to all the students in institution irrespective of discipline.
ii. Mixed approach by teaching generic concepts and principles of entrepreneurship to all year one (1) students in the institution and then reinforcing the skills further in specific core REM courses in the subsequent levels of the programme.
iii. Generic entrepreneurship course at the inception of the programme (say for all year one level students in the institution) and then developing the themes in stand-alone entrepreneurship courses in further levels of the REM programme.
iv. University wide approach whereby entrepreneurship courses are designed by the faculties and adapted to suit specific requirements of students in the participating faculties.
v. Discipline-based approach whereby a stand-alone entrepreneurship course designed specifically for REM students is introduced into the curriculum.

4. What in your opinion are the ideas/contents that should be taught in a typical entrepreneurship course for REM students?

	Strongly Disagree	disagree	neutral	Agree	Strongly Agree
How to develop entrepreneurial mindset and behaviours					
How to develop entrepreneurial attributes and skills for REM practice					
Building self-confidence, self-efficacy and leadership skills					
How to develop real estate business plans and write proposals.					
Sources of real estate venture capital and how to access same.					
Managing risk, complexity and unpredictability in real estate.					
Business literacy including opportunity identification and exploitation, how to build, finance and grow real estate ventures.					
Time management and career opportunities in REM discipline.					
Skills for discovering, evaluating and exploiting wealth creating opportunities in REM profession					
Developing social capital, business relationship, networking skills.					
Skills for setting up real estate businesses in association/partnership with others.					
Developing negotiating skills					

5. On a scale 1 – 7 rate the following options as to who you would prefer to teach entrepreneurship to REM students (1 = most preferred; 7 = least preferred)

Lecturers who teach compulsory core REM courses offered in the department	
Lecturers who teach elective courses offered in cognate departments.	
Lecturers trained by a special unit in the institution such as the Centre for Entrepreneurship Education.	
Servicing lecturers from the business faculty	
Lecturers who teach core REM courses complemented by estate Surveyors and valuers in practice and other entrepreneurs.	
Heads of Real Estate Surveying and Valuation Firms	
Experienced entrepreneurs from any industry	

6. Explain how the current ways in which you are taught core real estate management courses enable the students to become entrepreneurial in estate surveying practice on graduation from the programme?

……

……..

……

……..

7. If you do not feel that the real estate surveying profession is inherently entrepreneurial, suggest the innovations necessary to make the training of REM students more entrepreneurial?

……

……

……

……

……

8. Assessment

How often are the following components used in the assessment of students' learning in your department?

	Never	Rarely	Some times	Often	Always
Formal written examination					
Laboratory/studio reports					
Formal quizzes and tests					
Attendance to lectures					
Essay assignments/term papers					
Problem solving assignments					
Timely and relevant feedbacks from students					
Oral presentations					
Group project work					
Individual project work					
Report on external placement (SIWES).					
External examiner's report					
Student's self-assessment					

9. How strongly has your learning of real estate management equipped you with the following skills?

	Never	Poorly	Neutral	Strongly	Very strongly
A. Professional practice skills					
Ability to identify real estate management problems and solving such problems					
Ability to relate principles taught in school to practical issues in the society					
Ability to articulate and communicate ideas clearly, logically and without ambiguity					
Ability to communicates ideas verbally, logically and without ambiguity					
Research skills comprising:					
Ability to keep accurate records of deep insights					
Ability to understand and keep to the standards of practice					
Ability to identify and utilize appropriate data collection and presentation tools					
Can interpret data accurately					
I am highly numerate and familiar with the use of numbers					
Is meticulous and organised in record keeping					
Has an orderly approach to problem solving					
Ability to exhibit good networking skills					
Very proficient in the use of ICT					
B. Valuation skills					
Ability to clearly identify the client, purpose and date of valuation					
Ability to interpret market forces of demand and supply that affects real estate valuation					
Knows the basis of comparison of various property types					
Ability to reference buildings by measuring and sketching properties adequately					
Has sufficient skill and knowledge for collection of market data					
Ability to analyse data and interpret the results and make decisions therefrom					
Has numeracy skills and thinks quantitatively					
Ability to apply suitable methods and techniques in solving specific valuation problems					
Is sufficiently knowledgeable of the laws that regulate the valuation of specific property assets					
Demonstrates ability to differentiate between *the basis* and *the method* of valuation					
Ability to craft very explanatory Valuation report					

Kindly provide your details in case of further contact on this research

Name:
Email:
Phone number:
Year of study: 500 level estate management
Institution where you are studying:

APPENDIX 4C

Questionnaire for Heads of Real Estate Surveying Firms in Nigeria

Section One:

Background information

1. **Year of first graduation of the Principal Partner from tertiary institution …..……**

2. **Number of professionally qualified staff in the Firm**
   …….

3. **Core areas of professional practice in the firm**
   (Tick x against all the applicable options)

i. Valuation for various purposes
ii. Property/facilities management
iii. Land administration and management
iv. Real estate agency and marketing
v. Real estate investment appraisal
vi. Project management
vii. Others (please specify) ……

Section Two:

Employers' observations about performance of young graduates of real estate management

The term "young graduate", refers to any graduate of estate management from Nigerian higher educational institution, who is yet to attain a professional qualification as an associate member of the Nigerian Institution of Estate Surveyors and Valuers.

4. **Do you have young graduate(s) employed in your organization or under your supervision/mentorship?**

(Please tick X in the box that represents your response)

YES ☐ NO ☐

5. How often do the young graduates in your firm demonstrate the technical knowledge and skills-sets for effective real estate surveying and valuation services as follows:

A. ***Technical knowledge and understanding of theories and principles integral to the core areas of professional practice.***

Please tick (X) against your chosen option

i. Always
ii. Often
iii. Sometimes
iv. Rarely
v. Never

Valuation Skills-set

	Never	Rarely	Sometimes	Often	Always
Ability to clearly identify the client, purpose and date of valuation					
Ability to interpret market forces of demand and supply that affects real estate valuation					
Knows the basis of comparison of various property types					
Ability to reference buildings by measuring and sketching properties adequately					
Demonstrates skill and knowledge for collection of reliable valuation/market data					
Ability to analyse supporting valuation data, interpret the results and make appropriate decisions for useful advice to clients					
Has numeracy skills and thinks quantitatively to make accurate calculations					
Ability to apply suitable methods and techniques in solving specific valuation problems					
Is sufficiently knowledgeable of the laws that regulate the valuation of specific property assets					
Demonstrates ability to differentiate between *the basis* and *the method* of valuation					
Clearly demonstrates property description skills					
Ability to clearly describe the micro and macro factors integral to valuation of subject property					
Her actions are clearly in compliance with ethical standards for real estate surveying and valuation practice					

B. Professional Competency Skill-set

	Never	Rarely	Sometimes	Often	Always
Demonstrates ability to identify real estate surveying problems and how to solve such problems					
Demonstrates ability to give a clear background of a task in respect of instructions received from a client or principal					
Demonstrates ability to critically evaluate, and analyse the methods employed, the time taken and result achieved in a task assignment					
Can clearly identify the extent of own personal involvement and experiences in a group project					
Demonstrates ability to present facts in writing, clearly, logically and without ambiguity					
Communicates his ideas verbally in a logical manner and without ambiguity					
Demonstrates ability to critically analyse practical projects undertaken					
Demonstrates ability to relate ideas and interpret the results of data analysis accurately					
Utilizes appropriate data collection techniques to ensure collection of reliable data					
Demonstrates high level of numeracy and familiarity with the use of numbers					
Is meticulous and organised in keeping records					
Demonstrates prudence and accountability in the use of resources					
Demonstrates time management skills. Works quickly and efficiently to meet deadlines					
Demonstrates orderly approach to problem solving					
Demonstrates good networking skills					
Demonstrates ability to use ICT and relevant soft wares that enhance modern REM practice					
Her actions are clearly in compliance with ethical standards For real estate surveying and valuation practice					

C. Entrepreneurial Skills-set

	Never	Rarely	Some times	Often	Always
Demonstrates ability to relate confidently with clients and having a good understanding of what the clients really want					
Can relate confidently with colleagues and other professionals with the assurance of having good knowledge of the requirements of specific situation and challenges					
Ability to give direction and to motivate a group of persons to achieve specific goals					
Passionate about solving clients' problems and exploring new opportunities with them					
Demonstrates courage to fail in attempt to improve upon the existing ways of doing things					
The courage to be different in the process of creating a more efficient and original solution					
Easily makes new contacts and uses the new connection in a value adding way					
Ability to work strategically on projects and achieving objectives within agreed deadlines					
The ease of working with others to share ideas and improve on the quality of solutions					
Demonstrates initiative to create new solutions and the drive to work to realise it					
Demonstrates ability to recognize and exploit value-adding opportunities for a positive change					
Wisdom to seek advice from others in the process of creating new solutions					
Exhibits knowledge and skill to set up and lead business ventures successfully.					

6. Do you think that the teaching of entrepreneurial skills should be inculcated into the curricula for real estate management education such that the training starts while the students are still in the higher educational institution, to be continued and reinforced in the employer's organisation when they graduate?

Please tick (X) against your chosen option.

i. Strongly Agree
ii. Agree
iii. Neutral
iv. Disagree
v. Strongly Disagree

Kindly provide some further information:

Your position in the firm: ……

Year of Graduation: …….

Professional qualification (s): ……..

E-mail address:……

Phone Number: ……

APPENDIX 5

TRANSCRIPT OF THE EXPERT DEBATE

ON

THE PEDAGOGY AND PRACTICE OF REAL ESTATE MANAGEMENT IN NIGERIA: THE ENTREPRENEURIAL PERSPECTIVE

BY

UCHE S. EGWUATU

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PROFESSOR GODFREY U. UDO

SECOND SUPERVISOR

REAL ESTATE SURVEYING CONSULTANT AND DEAN FACULTY OF ENVIRONMENTAL STUDIES, UNIVERSITY OF UYO, AKWA IBOM STATE, NIGERIA

VENUE

AFRICAN SAFARI HOTELS LTD, ABUJA, NIGERIA

DATE

25 JULY, 2011 TO 26 JULY 2011

Introduction

The idea for a debate came up in the course of the research meeting to review the progress of the research work and pull ideas together from the supervisor's comments on the draft questionnaires so far submitted by Uche to enable her produce final research instruments for the work. The main idea is to come up with a template instrument that is rich enough to ensure effective collection of data for addressing the research questions. In the course of the exchange of ideas among the participants on how best to achieve each of the research objectives, the idea of a debate came up as a means of developing not only effective research instruments but in-depth and richer understanding of the entire research process. The debate was structured in line with the research objectives with voice recording for each stage of the tournament.

This paper is an attempt to capture the key ideas in the voice recorded debate into writing. It is not a verbatim transcription.

OBJECTIVE ONE*: To explore the wider literature on entrepreneurship ideas that will underpin effective introduction of the ideas in REM education. Examples of such ideas are the key concepts, entrepreneurial mindset and attributes, and issues in entrepreneurship education*

The debate in this section centred mainly on the drafting of the research questionnaire that will help to achieve the objective. The first task was to clearly define what we mean by embedding entrepreneurship in the REM curriculum. When we talk about embedding entrepreneurship, what does it mean? Does it mean to introduce entrepreneurship as a stand - alone course which every REM student must register and pass into the curriculum to serve across the REM programme, or to introduce the teaching of entrepreneurial skills and attributes within each REM courses. In other words when we talk about embedding do we refer to embedding entrepreneurship course in the curriculum, to be taught within the REM discipline or embedding the teaching of entrepreneurial skills and attributes course by course? For example by embedding are we referring to embedding the skills in a course that serves across the curriculum like we have a professional practice course that combines professional practice skills for all the REM courses, or embedding the entrepreneurship skills in the different REM courses?

After an intense debate we resolved that the term embedding in the context of this study refers to embedding entrepreneurship skills course by course that is, introducing the teaching of the skills within each core REM course/ module.

Pathways to embedding entrepreneurship in real estate management education

Having understood the meaning of embedding, the next issue we needed to clarify was "What is the nature of this embedding", what approach should it take?

We debated on the various approaches which Uche teased out from the literature review on entrepreneurship education, ideas from the Entrepreneurship Colloquium which Uche attended in Barcelona in 2010 and after due consideration decided on the mixed approach.

We are looking at an approach to embedding entrepreneurship in terms of which the overall learning experiences of students i.e. the knowledge, skills and attributes of entrepreneurship are well developed in the context of the REM discipline. This can best be achieved by m**ixed approach whereby in addition to generic course served by the Centre for Entrepreneurship education, entrepreneurship skills and attributes are reinforced in the teaching of the respective core REM courses.** The details of how to embed entrepreneurship in each course is within the scope of this research and will be discussed dialectically. The current practice in the higher institutions where entrepreneurship education has been introduced is that a generic course developed by the Centre for entrepreneurship education is serviced to all the REM students. This approach is good to the extent that it helps students to develop general awareness about entrepreneurship. However it does not enable students to develop entrepreneurial thinking in the context of the REM discipline. **We are looking at a situation where the top-down generic course taught is emphasized in the REM departmental courses so that students will understand how to apply the skills in solving societal problems.** The professional practice course emphasizes on business startup in real estate profession and does not achieve this entrepreneurial thinking.

Where then in the course do we locate the **entrepreneurial thinking which** lays emphasis on how to make people realise that what they learn is meant for solving problem in the society. The overall aim of discipline based entrepreneurship education is to inculcate/develop entrepreneurial mindset among the students. Embedding entrepreneurship course by course is what will help students achieve this. The focus on choice of teaching approach should be on the end users, with the emphasis on how to teach each core REM course in such a way that students are made to realise that what they learn is meant for solving societal problem. Are the lecturers doing this in the way they teach? To answer this question, we need to ask the lecturers what they are actually doing through a survey. Our questions for REM academics should be posed in such a way as to elicit from the survey whether or not the lecturers are teaching the skills in their respective courses.

Possible questions for this purpose are:

i. How do you teach the core module/course you selected? Do you teach this course in such a way that it imparts entrepreneurial skills?
ii. In teaching the course what processes do you think that a student needs to think through in order to practice what he learns entrepreneurially?
iii. Students must know how principles are applied to solve societal problems:
In the teaching of your chosen REM course, are students made to see the link between the principles and practice? In other words, are they taught in such a way that they are able to relate the principles in that course to the needs of the society and solve problems?

In our understanding of entrepreneurship students are meant to be exposed to some fundamental skills. These basic skills can be accommodated in a top up course for REM students in the teaching of each of the REM courses:

i. What is the nature of these REM problems that need to be identified and solved?
ii. What basic skills have you given student that show their ability to solve the problems entrepreneurially, i.e. being able to identify the problems, gather the resources/data for solving the problem and be able to solve these practical problems in the society.
iii. How are you going to bring in the teaching of entrepreneurial attributes - creativity, risk taking, initiative and bring them to bear in solving REM problems?
iv. Is your teaching able to reinforce the skills learned in the generic course in a way that enables the learner to solve REM problems? Nature of REM problems are different, will a graduate be able to identify such problems.
v. What skills have you taught the students to enable them solve problems entrepreneurially.

Approaches and corresponding challenges for embedding entrepreneurship

In asking questions about approaches to teaching entrepreneurship and the corresponding challenges, the approaches that came from the literature must not be overlooked (Uche already provides these approaches in her literature review on Objective one). We need to find out what approaches are being used presently because we need to know where they are before we can lead them to where they ought to be. To elicit information about the approaches presently in use in the HEIs, Uche needs to provide an inventory of the available options with a brief explanation of the meaning of each approach to enable the respondents understand what the approach stands for. The more options we can give the respondents the better and easier it is for them to respond.

Uche is required to add more options from approaches teased out from the literature to the inventory from the tournament debate and send to Patrick and Godfrey to forensically go through and make comments before production of the final copy for distribution.

Typical Questions on approaches and corresponding challenges:

i. What innovations would you suggest about entrepreneurship education for REM students?
ii. Who should teach entrepreneurship to REM students? Expand the list with more options.
iii. To elicit information about methods of teaching entrepreneurship, make an inventory of possible **methods**, likert scale the options and ask the lecturers to tick.
iv. **Content**: What should be taught? Prepare an inventory list and likert scale as in (iii) above.

The questions should be as simple as possible and whatever information we fail to get from the lecturers should be teased out from the debate and the literature.

Furthermore, this intense scholarly debate organised by the researchers should form part of the methodology because the views the experts provide triangulate the lecturers' opinion.

OBJECTIVE 2: *To explore some issues in REM education such as the traditional curriculum (current LTA strategies) conceptions of learning and learning outcomes in order to examine possible gaps in the learning, which if addressed in a new curriculum would improve the quality of graduates.*

Objective two seeks to test the effectiveness of REM education comprising the curriculum, the teaching, and the standards. We will start by i**dentification of the skillsets which effective REM education should provide.**

What skills-sets are graduates of REM expected to exhibit? What we want to say is that HEIs in Nigeria do not seem to know what the graduate outcomes are supposed to be. The professional standards for REM practice also do not have any standard that documents the graduate outcomes or skillsets which graduates of REM from Nigerian HEIs are expected to demonstrate. We will then rely on the standards for REM education comprising NBTE standards, NUC MAS 1997 and the BMAS 2007 standards and tease out the skills-sets or learning outcomes. The skillset/learning outcomes from those documents will then be regarded as the graduate outcomes which effective REM education should provide. Experience shows that lecturers reflect most of the learning outcomes in their teaching but they do not test the demonstration of the outcomes/skills in the learning assessment. In other words, lecturers teach the content, theory and principles of a course without testing

the demonstration of the skills for example by asking students to carry out projects and write reports, essays, practical assignments e.t.c as means of testing students *for* the learning of such skills and demonstrating same in real life situations.

Action plan for this section:

Draw up questionnaire that throws up an inventory of the skillsets/graduate outcomes which effective REM education should provide in the light of the stipulated standards and ask the lecturers to tick what they do.

Identification of the gaps

The identification of the gaps will also be based on what is documented in the standards for REM education. This can be answered through analysis of NBTE and NUC documents that embody the standards for REM education in Nigeria to establish the gaps. Note that ideal curriculum has been constructed from the elements that depict the ideal curriculum-Literature in part one of the papers on Curriculum constructs. Establish whether there are gaps and if there are what kinds of gaps?

The following questions will help us to establish the nature of gaps:

1. Are we able to implement the standards such that the students are able to demonstrate the skill-sets? If not then there is a gap
2. To what extent are the higher institutions able to deliver effective REM education?

Possible gaps will be in the nature of:

- *Gaps between the ideal curriculum and the NUC standards (in terms of content).*
- *Gaps between the NUC standards and the university REM curricula that implements the standards (in terms of content and delivery?).*
- *Gaps in the interpretation and Delivery of REM curriculum*

The new NUC BMAS 2007 and the NBTE curriculum 2003 require the teaching of entrepreneurship in all the disciplines in the Nigerian HEIs. This provision was not in the traditional minimum academic standards curriculum of 1997 being implemented in most Nigerian universities. There is actually no gap between the NUC MAS curriculum (1997) and University curricula that implement same as most university curricula tend to be better than the NUC MAS curriculum, 1997. The gap however manifests in the NUC BMAS 2007 which provides for teaching entrepreneurship skills and the university curricula that have not been reviewed for many years (about ten years) and do not have such provisions.

There is therefore a gap between the NUC benchmark academic standards 2007 and the university curricula that implement the NUC standards. There is no gap in the content

between the NBTE standards 2003 and the curricula for REM education at the polytechnics level because the Polytechnics use the NBTE curriculum with slight or no modifications.

Part of the problem also is the weakness in the teachers teaching skills. Most of the REM lecturers are not trained teachers. The gap lies with the lecturers' interpretation of the curriculum and the fact that lecturers may not have the required skills to teach the BMAS curriculum that provides for entrepreneurship education for REM students.

There is also a possible gap in the sense that the lecturers carry out assessment *of* learning and not assessment *for* learning.

- *Gaps between what is known as effective curriculum delivery and what obtains in the current LTA practices in the Nigerian HEIs*

How effectively are the institutions delivering the curriculum (NUC) if it is not effective then there is a gap. What is the nature of the gap? Where is the gap? Are the educators able to deliver effectively? The full picture is expected to emerge from analysis of the LTA practices.

For instance, the REM education is not effective because the people who are supposed to deliver the curriculum are not able to deliver effectively. In the current dispensation they are not able to deliver in a way that enables the graduates solve societal problems effectively.

Measuring the gaps

It was necessary to define the gaps we want to measure in this research, is it the gap in the **curriculum or in the delivery or interpretation.** Why are there gaps?

We agreed to measure the gaps in the curriculum, interpretation and in the delivery of the curriculum. For example explain the nature of the gaps and measure the gaps in curriculum by establishing the missing link between the content of the ideal/NUC BMAS curriculum and the university curricula or Measure the gaps in the curriculum delivery by saying for example that Items no 1….5 of the learning outcomes/skillets were not delivered.

To measure the gaps, we need to go to documents analysis to identify the gaps in the curriculum. The skills-sets suggest the graduate outcomes which effective REM education should provide in the light of the standards.

The current LTA activities cannot effectively deliver the skills-sets. We are looking for strategies that will enhance and deepen the knowledge and entrepreneurial skills of REM students. At this point we want to be able to classify the gaps to give us the inventory that can be tested through a survey using a lickerd scale. The nature of the survey questions for this section should be a comprehensive inventory of the skills teased out from the

documents analysis for lecturers to tick. Whatever they are not able to tick as the skills being taught represents a gap.

It is now up to the researcher to sit back and critically evaluate the responses to tease out the nature of the gaps: whether it is a gap in the curriculum content, delivery or in the interpretation, which of the gaps have made it difficult for lecturers to meet the baseline effective REM education etc?

The document analysis shows us what effective REM education should be. How effective the REM education is in the present dispensation will come out from a survey? The Questions should be drafted and worded in such a way to draw insight from ideal curriculum, NUC curriculum, and University curricula. The big inventory list that captures all the skill is the key to achieving this objective.

It was agreed that Patrick and Godfrey should look at the inventory list provided by Uche and possibly add from their own experiences.

Closing the gaps

What innovations are required to close the gaps? Finding the strategies that will help to close the gaps are the innovations we are looking for.

Summary of What to do in order to achieve Objective two:

1. Identify the skillsets/graduate outcomes
2. Establish the gaps
3. Classify/measure the gaps
4. Discuss innovations required to close the gaps or how to close the gaps.

Objective Three: *To review the professional standards guiding REM practice in Nigeria and survey practitioners' opinion about possible gaps in practice revealed by employees (young graduates) of real estate management.*

Work in objective three involves a critical review of the professional standards for REM practice and then linked to entrepreneurial practice. Uche would look at the Nigerian Institution of Estate Surveyors and Valuers (NIESV) standards and do a document analysis to tease out the graduate outcomes from NIESV standards. We decided to rely on the NIESV documents since the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) has ceded the practice protocol to NIESV and remained essentially a registration body.

Looking at the documents it appears that at the initial stage, the institution was thinking in terms of establishing the institution first and foremost and not in terms of what and what a real estate graduate is expected to do.

We can offer a critique to show that the level of competence was not rigorous in what is expected from prospective professionals. The real content of what a graduate of REM should be able to do was not there in a rigorous way in any of the documented professional standards for REM practice. That being the case it was decided that Uche should go through the documents that embody the professional standards and tease out the skills areas that relate to entrepreneurial competences. Whatever we are able to sift out from the documents will then be enriched with literature like GSA Ifediora's book (2011), test of professional competence, NIESV conferences and other similar documents.

To achieve objective three we need to critically examine how these set of competences relate to entrepreneurial skills and attributes already identified in objectives 1 and 2 above. This essentially requires **a correspondence/linkage** analysis to determine which elements in the professional competences are actually linked to each entrepreneurial skills and attributes i.e. in our views and the views of the lecturers we do a correspondence analysis using cause and effect diagram. In order to reinforce entrepreneurial competences within the professional practice those skills that are directly related to entrepreneurial attributes are the ones we continue to reinforce to improve the entrepreneurial capacity of students. The whole idea is to reinforce entrepreneurial attributes in those elements in the professional skills and competences that correspond with entrepreneurial thinking.

Essentially, the emphasis for effective REM education in Nigeria still rest on NUC/NBTE as the regulatory bodies that respectively standardize the university and the polytechnic education. The professional standards are just the extra/add-on. We are to make a strong argument that a lot about what happens in REM education rests on NUC/NBTE standards as the basic requirements. What we need to do is a linkage analysis and say what additional skills-set and procedures for training REM students are coming up from the professional documents. Check for any extra provided by the NIESV seminars, workshops, MCPDs and conferences, John Wood Ekpenyong lectures; NIESV valuation standards, RICS documents etc. look at the documents critically and ask whether they add to entrepreneurial content and training or not.

The critical analysis can now present a global template that accommodates a coherent list of skills. We will argue that the aspect of such professional activities that reinforce entrepreneurial skills should happen within the curriculum while the students are still in the HEIs so that by the time they leave the higher institution they can continue the training.

In effect the contribution to knowledge that research in Objective three (3) will surface is in the sense in which we have critically analysed the contributing documents or standards i.e. From NUC documents, professional standards, Ifediora's book, test of professional competence; linked to equivalent skillsets provided by the NUC standards, then linked into wider generic list of entrepreneurial skillset already trashed out in earlier inventory. This will then be used to provide a global template of skillsets, some core within the NUC and NIESV definitions, some enrichment from global standards that now clarifies to all the actors that are stakeholders in enterprise education a richer set of standards that people can work with. Also suggesting that the way these bodies conceived of professional REM graduates that knows and masters these skills now have to also be replicated so that the entrepreneurial training will not be left to be an add-on when the students have graduated from the HEIs.

In effect the contribution will emerge when we have critically analysed all the relevant documents that embody the professional skills and competences, then linked to NUC standards and entrepreneurial attributes to clarify for all the actors a richer standard within which people can work and also posit that the professional training of REM students starts while they are still in the university rather than being an add-on when they graduate. This way there is a continuous exchange between what happens in the academics and what happens in the field of practice on graduation.

A system of CPD work activities should all be part of the programme and can be tested by asking guest lecturers to submit their papers to the department. This can be tested in the HEIs curricula within assignments by asking students to demonstrate what they have learnt in the professional seminars or guest lecturer's speech by reflecting on the reports or speech and writing a two page summary for instance as part of the students overall course assessments. This present effective means of assessment *for* learning by making students think more critically on how to use knowledge. The challenge posed by time constraint to the delivery of the new curriculum was noted during the expert debate**.** How do we work out the intricacies of time for enterprise activities and work over-load for lecturers delivering the new curriculum for enterprise education. For instance how do we structure the entrepreneurial activities like playing games with students, role playing etc. into the work load of the lecturers and the lecturer/students' timetable? The suggestion from the debate is that the additional income generated through enterprise education should be used to reward lecturers as additional income over and above what they are used to be paid to serve as incentive and motivation for the staff delivering enterprise education. The details of **how to structure the time, overwork and staff motivation into enterprise education** is a subject of another research in form of academic entrepreneurship.

How do we test this at the professional stage? Uche should check whether our test of professional competence test these skills in the course of her critical evaluation of professional standards.

What to do to achieve Objective three

- Do a critical analysis of documents to filter out professional skills that are cogent to entrepreneurial learning/practice.
- Make a comprehensive inventory of the skills and Likert scale the master list.
- Ask the REM practitioners to rate their new employees on performance/how the employees are meeting those skills.
- Ask REM practitioners why those professional skills and activities that reinforce entrepreneurship cannot happen within the curriculum while the students are still in the HEIs and to be continued in practice when they graduate.
- Analyse the responses to find out what is lacking in the new graduates.

Godfrey as the expert in the REM field was requested to lead Uche on the critical analysis to help her decongest the amount of work involved.

Objective four: *To critically evaluate insights from 1-3 above in order to establish the links amongst entrepreneurship ideas, real estate management education and professional practice. This evaluation will examine how the gaps in learning relate to the gaps in practice and how innovative REM education will help to close the gaps.*

Work in objective four involves bringing together of the critical insight realised from Objectives 1-3 in such a way that the key ideas that constitute the new knowledge will now be crystallized. The new knowledge will then be reflected in the new ideal curriculum that we are going to construct. The evaluation that happens in chapter 4 is like the synthesis of the work similar to the grand summation of the whole research work. In effect work in this chapter is at a stage where we may need to say; having related the entrepreneurial ideas (skills and attributes) covered in Objective one (1) to REM education and then linked to the standards that come from the critical analysis of the professional standards, what is new or novel from what we have done? In other words it in the sense in which we may ask, now that we have done so and so in objectives one, two and three of the research work, so what? What is new, what is cogent to be taken into the new ideal curriculum.

What to do to achieve objective four:

What Uche needs to do in this chapter is a proper discourse of the results that have come through from research in objectives 1 to 3. She will have a lot of documents for this chapter if she can effectively synthesize and transcribe the discussions in the tournament sessions

of 25th July 2011. Only the novel ideas are what must be reflected in the construction of the new ideal curriculum.

Key Results/ Constructs Are:

The links amongst entrepreneurship ideas, REM education and professional practice

This is the key result summarised in a page or two indicating only the novel ideas that must be reinforced in the ideal curriculum to address/close the gaps. Those novel ideas are what make the new curriculum ideal and novel. Ideal curriculum in philosophical terms is 'emergent'. It emerges from the consolidated work, very critical, with deep forensic analysis of data and information to give us those nuggets of ideas that are quite new and powerful enough to drive entrepreneurial training in REM in a spectacular way. That is why the ideal curriculum is *ideal*.

Gaps in Learning

Godfrey suggested another expert debate to crystallize the gaps in learning, gaps in practice and how a particular gap in learning filters into gaps in practice and then figure out how to close the gaps.

As a starting point to having a background knowledge on learning gaps Uche is required to do a mini literature review on gaps in learning using two key documents: Cox and Light (2005) and Ezepue (2008) on Foundational Issues….. and or Ezepue, (2007) on Critical Thinking and Pedagogic innovations…….. This is in line with our earlier decision on the framing of the chapters in this research in such a way that the introduction of the key ideas in each chapter should be followed by a literature review on the chapter. Patrick emphasized that the ideas in Cox and Light (2005) is very germane to this work and must be surfaced in this chapter.

The debate

Patrick summarised the arguments in Cox and Light (2005). The authors were looking at what they call *the weave of learning,* which identified 5 gaps in learning pedagogy that can happen in any discipline. Our attempt at closing the gaps can be based on those five crucial gaps. For example the first basic conceptual learning that happens in education is the teaching of concepts and ability to recall them. To make the learning entrepreneurial, the lecture has to be such that the concept does not just have to be recalled but has to be called into practice by the learner such that it is no longer rote learning but contextualized or situated learning. Those five gaps for instance the gap between ability to recall what has been learnt, ability to use, and three other gaps which take the learning experiences from higher education into the practice map entrepreneurial pathway. There is another gap that is

at the boundary between when the learner is leaving the HEI into the world of work. These gaps map the entrepreneurial pathway that if the training we provide students has already been designed within the curriculum through structured learning outcomes to close out the theoretical gaps across the entire programme, by the time the students are leaving the REM education programme from HEI the gaps are already closed, so all that the REM practice does is to keep enhancing a richer knowledge that is already obtained.

Most Nigerian universities are not anywhere closing the basic gaps, in the teaching talk less of the remaining two gaps as most teaching are about pushing down information. Ezepue (2008) argues that the gaps in learning automatically translate to equivalent gaps in practice. (Uche is to rely on Ezepue's paper under reference and relate it to REM education in Nigeria). The purpose of our work in this chapter is to philosophically relate these gaps we know theoretically as gaps in standards, delivery and all the gaps we know as is within the Nigerian system and say that the best way to close the gaps is to close them straight away from the curriculum by the way we construct the learning outcomes. Structuring those ideas and construction of learning outcomes that surface the ideal learning automatically closes the gaps.

This is why the construction of learning outcomes is very important. But we know that most REM lecturers are not trained teachers. Their conception of learning and learning outcomes are weak. Therefore the training of REM lecturers themselves to understand a better way of constructing learning outcomes that can close the gaps is a contribution to knowledge.

In the course of the debate, Godfrey, dwelt extensively on the gaps from professional REM practice perspective by looking at certain requirements that students are expected to learn in the HEIs. Emphasis should be on enabling students to use their learning from the course of study in identifying and solving societal problem. In REM we are dealing with time and space. The professional should be able to understand how people feel about the problem and come up with solution. Emphasis should be on looking at a problem and solving it. He needs to understand for instance that every valuation problem is a research problem. The person should be able to see the problem and assess what the problem is, how to solve it, what data set is needed to solve such problem. The professional should be able to articulate and communicate his ideas fully and be at home with the use of technology. Thinking entrepreneurially should come up with options, likely and unlikely. An entrepreneur is a lateral thinker, a critical thinker. If a student is taught entrepreneurially, then he will think and acts like an entrepreneur on graduation by being a lateral thinker and a critical thinker. How does this entrepreneurial graduate give advice? It goes back to how he was taught. For example, he should have been taught that in giving a valuation advice, he needs to

discuss his interim or draft report with the client and have their comments integrated in the final report.

This makes the client feel that he is part of the job and is carried along in the course of finding solution to his problem. The graduate should have been taught that as a professional he gets paid to help people realise their needs and the client must be satisfied with the solution as giving him value for money. An entrepreneurial graduate must keep to ethical standards, and follow a checklist that he ticks off and seeks information from clients in a way that makes them feel part of the job to oblige such information.

An entrepreneurial professional should form the habit of recording any moment of deep insight and uncommon experiences in the course of solving professional problems. He does a critical reflection of insight in terms of what he did, how he managed the process and how he went about solving the problem. There should be a short documented record that gives insight into how the expert executes his projects. Record of such insights must be kept as a way of bringing together all the experiences of the day and showing deep and unusual insights to tease out any new knowledge which can further be used in training. This is how to develop innovative entrepreneurial practice. In analysing responses from survey of REM practitioners, Uche should note that practitioners give their responses based on what they know, and what they have experienced. She should therefore note the gap analysis that may exist between the traditional practitioner and the modern surveyor in terms of the expected entrepreneurial agenda which is unexpected for the traditional practitioner. The gap analysis must therefore take into consideration uncommon experiences.

Innovative curriculum should develop in students the skills and ability for handling uncommon problems. How? This could happen by bringing in reflective and reflexive education which helps to develop in students the skills that make them original problem solver. This emphasizes the problem solving skills. For example by using role playing where a student can act a problem owner or landlord to demonstrate how to do it in an ideal curriculum; debriefing oneself by preparing one page reflective report for every assignment done; working on a problem that has a problem by applying critical insight and intuition. Students should be led to how to solve uncommon problems through using deep insight.

There are eight elements some body need to think through for instance to critically evaluate a problem for higher order learning (Ezepue 2007). Reflexive report which goes back and forth in thinking through a problem; having the mindset for strategic intelligence (see the Makinse Mind, also check another book on the Five Minds; Strategic intelligence- the intelligence to know something that needs to be done without being told to do it. See Makinse Mind by R. and Enick; R. Gardener's Five Minds. These points are well discussed in Ezepue (2008).

Patrick promised to also send the paper on higher order Intelligence written by Libyan students under his supervision.

Summary of what to do in Objective four

1. Relate the identified theoretical gaps to professional practice.
2. Look at gaps in practice and relate it with how the students were taught i.e. Gaps in learning explored in Cox and Light; the equivalent gap in practice that they portend; the manifestation of the gaps as we see the gaps manifesting are the three points we will play around with in the discourse.

Godfrey and Uche should do a gap analysis between the traditional practitioners that reflect what we do not expect to happen and the innovative practitioner that can take risks and embrace innovations. *We noted that the skills for REM practice are taught but that our emphasis in this research should be on teaching the skills entrepreneurially e.g. Teaching a typical valuation exercise as being a research problem.*

3. **How to close the gaps by exemplification of the emergent ideal curriculum/ note that the name ideal curriculum is** metaphoric in the sense that it looks at curriculum that is so good and so innovative that the only curriculum that can compare with it is what happens in MIT. We are not looking at ideal curriculum in the sense of something so perfect that it becomes unattainable. The research takes an idea of ideal curriculum from back ground knowledge, the literature and ideas from our debate for higher order learning.

Objective Five: *To demonstrate the innovative curriculum using a core REM course as a case study e.g. property valuation and management*

For the purpose of the case study, Uche confirmed that she is comfortable with property valuation as her core area of competence in terms of education and practice having thought the course at the for many years in the higher institution and practiced the profession. Valuation is a core area of REM education and practice, it is also a core research domain for Godfrey and this gives opportunity for the research to gain from the strong input he brings to bear from his wealth of experiences in the REM education and practice in Nigeria. Patrick also has keen interest in the subject of valuation a prelude to investment analyst and decision making. With these considerations, property valuation course naturally surfaced as the best choice for the case study. We think that if we are able to demonstrate how to embed entrepreneurship in valuation, it can now be translated to other REM courses and possibly copied over to other disciplines.

Summary of what to do to achieve objective 5:

1. Do a small table showing the list of the core five courses in REM and their characteristics.
2. Do a difference analysis to show how each of the core courses differs from valuation and what extra needs to be done in such other courses that differ in some ways from valuation to make it entrepreneurial e.g. show the essential character of land economics that makes it different from valuation and what extra bits will be required to make the course entrepreneurial. For all the courses these are the extra that need to be done.
3. The case study:

   Take valuation from year one to graduation as case study and demonstrate entrepreneurial curriculum for same. Demonstrate innovative and ideal curriculum as applied to REM i.e. expatiate the innovative curriculum we discussed and translate the ideas to how to do it in valuation. This provides a handle for REM lecturers who teach the course.

   Looking at the order of the courses progressively in order to demonstrate innovative REM curriculum:

1. List the core courses, take a case study to demonstrate what innovative REM courses should be
2. Explain the meaning of core REM courses. Give details to show a matrix of what happens in ideal curriculum and interpose into REM Curriculum (about 5 pages). Use valuation as a case illustration of how to teach entrepreneurial skills and attributes in REM courses. We are just bringing in all the issues and points we have been talking about all along. Concretize the ideal in valuation i.e. in the learning, teaching, assessment, high order learning, how theses help entrepreneurial learning to happen and explain how it will surface in the innovative REM curriculum
3. Demonstrate the innovative REM curriculum.

   Philosophy of PhD work must be emphasized in every chapter to surface the theoretical and practical problem we are solving.

   The theoretical puzzle:

   This work is looking at curriculum innovations within a discipline that will enable the teaching and practice of the discipline to be entrepreneurial. It is a puzzle because while people pay lip service to entrepreneurship and do it the top down way other people cannot consider how to embed it within the discipline.

The practical puzzle:

The practical puzzle of this study is that if we embed entrepreneurship properly within the REM discipline we are capacitating the graduates of REM discipline to be entrepreneurial. This study is useful to the society because every country in the world uses this to develop its workforce to be wealth creators and the problem we have in Nigeria is that graduates whether employed or unemployed are not good wealth creators. This is so because the training that they received from HEIs did not prepare them for solving problems innovatively. This is actually impacting on wider socio economic development of the country. If we can get every discipline to develop this way then every single discipline is professional.

These two puzzles must surface clearly in every chapter. Summarise what is novel about the work and then end it in the future.

SAMPLING FRAMEWORK

Take samples from the different clusters we want to survey.

For the academics, we want to select 6 universities and 3 polytechnics and survey all the lecturers.

The probability sampling is demonstrated by making a list all the universities and polytechnics and selecting the ones that are relevant to this study having in mind its peculiar nature. Our argument to justify the sampling is that we do not know the respondents and purposefully selected them randomly; therefore their responses are not biased. The universities have different characteristics and we have carefully selected those that meet some requirements that makes the result we are going to get more useful. The kind of randomness we argue is that the fact that we do not know these people before, the result they are going to give us are equally generalizable to the university of their type. The universities selected are the ones of longest standing in terms of REM education, and the few that have attempted some innovations. The polytechnics selected also reflect years of long standing and drawn from each of the old regions in Nigeria.

In our selection of students are also surveying students, final year students who have experiences near enough to have gone through all the stages in the learning experiences so far to be in a better position to respond. We still need to **take a random sample of the final year students from the same institutions of higher learning where we sampled the academics.**

The survey of the REM practicing firms: S**elect firms randomly and ask the principals about the practices of the young graduates.** Figure out surveying firms that are in cities where there are a lot of activities and active participation in professional practice. E.g.

Kaduna, Lagos, Abuja, Enugu, P.H, get the mail addresses from branch chairmen and secretaries. We decided on sample of REM surveying firms in Abuja, Lagos and PH as centres of vibrant REM practice activities. The sample gives a cross section of those who actively participate in professional activities.

DATA analysis techniques

The research uses a multi-methodology. Start with the elucidation of the reason for the chosen techniques. Qualitative technique will feature because we are dealing with scoring (likert scale), opinions; quantitative analysis/modelling of data coming up from the survey, qui square etc.,

Content/critical analysis and Discussion of the results.

End of the debate

Information/resolutions:

1. Uche needs to submit Research ethics document to Kathy before the questionnaires are served on respondents because we are surveying human beings. It is a technical requirement that must be complied with.
2. The exchanges in this debate forms part of the methodology and the thesis writing up
3. The promise from the research supervisors:

Knowing that we are solving such original problem Patrick and Godfrey promised as follows:

1. To guide Uche closely since she has applied herself intelligibly to the work
2. The work is highly original
3. Do a timeline that needs to be followed by all.

APPENDIX 6

Table 6.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Benchmark minimum academic standards 2007	10	22.7	22.7	22.7
	Minimum academic standard 1997	27	61.4	61.4	84.1
	no. response	7	15.9	15.9	100.0
	Total	44	100.0	100.0	

Table 6.2 Frequency of lecturers' academic qualifications

Academic qualifications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	hnd	1	2.3	2.3	2.3
	bsc	1	2.3	2.3	4.5
	Bsc & Msc	28	63.6	63.6	68.2
	Bsc,Msc & Phd	14	31.8	31.8	100.0
	Total	44	100.0	100.0	

Table 6.3 Frequency of lecturers' professional qualifications

Professional qualifications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	anivs	11	25.0	25.0	25.0
	Anivs & Rsv	17	38.6	38.6	63.6
	anivs, rsv & fnivs	7	15.9	15.9	79.5
	none	9	20.5	20.5	100.0
	Total	44	100.0	100.0	

Table 6.4 Frequency of REM lecturers' teaching qualifications

Teaching qualifications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PGDE	2	4.5	4.5	4.5
	None	42	95.5	95.5	100.0
	Total	44	100.0	100.0	

Table 6.5: Frequency distribution of academics' responses on course category for entrepreneurship education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Compulsory core course in the department	11	25.0	25.0	25.0
	compulsory core course in related department	7	15.9	15.9	40.9
	elective course in related department	6	13.6	13.6	54.5
	compulsory core course located in the centre for entrepreneurship education	12	27.3	27.3	81.8
	Elective course in the centre for entrepreneurship education	8	18.2	18.2	100.0
	Total	44	100.0	100.0	

Table 6.9: Lecturers' preferred approach for entrepreneurship education (prat…, Appendix1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Institution wide generic approach	8	18.2	18.2	18.2
	Mixed approach with generic concepts reinforced in core REM courses	10	22.7	22.7	40.9
	Mixed Generic course with themes developed in stand-alone entre. courses	11	25.0	25.0	65.9
	University wide approach with courses deigned to suit faculty needs	8	18.2	18.2	84.1
	Discipline-based approach with a stand-alone course for REM students	7	15.9	15.9	100.0
	Total	44	100.0	100.0	

Table 7.4: Preferred approach to entrepreneurship education

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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Institution wide generic approach	31	14.3	14.3	14.3
	Mixed approach where generic concepts are reinforced in specific core REM courses	62	28.6	28.6	42.9
	Mixed approach where there is generic course at inception with themes developed in stand-alone courses	37	17.1	17.1	59.9
	University wide approach with courses designed to suit faculty needs	56	25.8	25.8	85.7
	Discipline-based approach with a one-off stand - alone course for REM students	31	14.3	14.3	100.0
	Total	217	100.0	100.0	