Building Entrepreneurship Education Program as a Key Element to Promote the Successful Creation of Small, Medium and Micro enterprises (SMMEs) to Built Environment Students

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ABSTRACT AND KEYWORDS

Purpose
This paper examines the curriculum content of the building entrepreneurship program with the intent of identifying several modules and then determining whether they add value to the successful creation of small, medium and micro enterprises (SMMEs) to Built Environment students. The overall intent is to understand the nature of these modules and examine the potential elimination or re-conceptualization of those modules that do not promote the successful creation of SMME’s.

Design/methodology/approach
The research approach involves a critical examination of the building entrepreneurship modules of the Built Environment Departments. Several literature sources related to entrepreneurship education were reviewed to provide a step forward towards improving the curriculum content of the building entrepreneurship program.
Findings

The paper reports that there are a large number of modules that make-up the building entrepreneurship program which are conducted by the Built Environment lecturers. Each of these modules does not necessarily add value to the promotion of the successful creation of SMMEs to Built Environment students.

Practical implications

The study will increase knowledge and awareness of entrepreneurship education towards the crucial role in transforming our country's economy from stagnation and jobless growth, to that of a vibrant and high growth of SMMEs to both Built Environment lecturers and students.

Originality/value

The identification of the modules which do not contribute to promote a successful creation of SMME’s to Built Environment students provides the initial step towards improving the curriculum content of the building entrepreneurship program.

Keywords:

Building entrepreneurship modules, entrepreneurship education, SMMEs

1. INTRODUCTION

In the last three decades, South Africa’s capacity to absorb new employees into the formal labor market has fallen from approximately 62% to less than 4% (Davies, 2001). Perhaps this was one of the reasons why entrepreneurship curriculum was integrated into Built Environment program in the last two decades. The integration of an entrepreneurship syllabus (from business school) with building syllabus (from engineering school) established a new program known as ‘Building Entrepreneurship IV’. In Finland, implementing entrepreneurial studies in engineering education is adopted from an Act that states: “After graduation the student should be able to work as an expert, but also as an entrepreneur” (Kontio, 2006).

The goal of entrepreneurship education should intend that whatever the graduates from technical faculties are working on; they always keep an eye on the entrepreneurial aspects (European Commission, 2008). Brijlal (2008) asserted that in order to motivate self-
employment after graduation entrepreneurship programs should be offered to all faculties. Why is there a need to motivate self-employment after graduation to university graduates? Of the economically active unemployed youth, 87 per cent are qualified university graduates. This is according to the survey conducted in September 2007 by Statistics South Africa. The survey looked at people with degrees, diplomas and certificates. Moreover, the general unemployment rate was relatively stable in Quarter 2: 2009 at 23, 6% as against 23, 5% in Quarter1:2009. The crisis of unemployment has resulted in policies promoting entrepreneurship as one promising solution (Papayannakis et al., 2007). According to National Qualification Framework (2000), to contribute to the full personal development of each learner and the social and economic development of society at large, developing entrepreneurial opportunities must be the intention underlying any curriculum program. Dana (1993, p. 86) and O’Neill (2004, p. 5), asserted that the end product of entrepreneurship education should be a creative student who understands how to bring an idea from conception to starting and managing a business. In South Africa, an overall unemployment was currently 25.5 per cent (StatSA, 2007) and over 75 per cent among the youths (25-34 years) (African Development Forum, 2006, p. 6), and every entrepreneurship trainer is aiming to produce “job creators and not job seekers”.

In SA University of Technologies (UT), integration of an entrepreneurship syllabus with building syllabus established a program known as “Building Entrepreneurship IV”. However, this programme utilizes a classroom approach in delivering entrepreneurship lessons. This becomes a problem because classroom approach utilizes pen and paper exercises with no emphasis on imagination, practical creativity and innovation (O’ Neill, 2004). Botha (2006) highlighted that most programmes pay high attention to the knowledge aspects but are weak on the skills and attitudinal aspects that are crucial to the success of any potential or start-up entrepreneur. Dhliwayo (2008) claimed that with traditional classroom approach students will hardly discover the extent of entrepreneurial discipline, because this approach tie the “trainee/student entrepreneur” to the four walls of the classroom, depriving him or her of the experiential, real life learning experience. Arguably, UT have not prepared built environment students for self-employment as a career option, resulting in the loss of many potential start-ups of small and medium-size enterprise contractors by construction students. Botha (2006) stated that a focus on entrepreneurial behaviour and the development of newer and smaller businesses is less readily accepted. This has far influence some academic faculties to give little credibility to entrepreneurship as an appropriate area of study (Cooper et al, 2004). Even though little is known about effective way of teaching entrepreneurship (Brockhaus, 2001), Gorman and Hanlon (1997) advocated that entrepreneurship education can positively influence the entrepreneurial attributes. Co and Mitchell (2006) opine that the higher
institutions can play a role in creating an entrepreneurial mindset and behaviour in students, and can both provide necessary support and legitimacy to their attempts to become job-creators. In Canada for example, 40% of engineering graduates who received entrepreneurial training had started their own small businesses (Menzies and Paradi, 2000). Klandt (1993) argue that “entrepreneurial capabilities are not inborn but can be learned, and therefore assume that they may be enhanced or developed by a guided learning process”. The purpose of this paper is to evaluate various building entrepreneurship modules and examine the potential elimination or re-conceptualization of those modules that do not promote successful creation of SMME’s, to building students.

2. ENTREPRENEURSHIP EDUCATION

While there is an overlap between entrepreneurship and small business management Rwigema and Venter (2004) claim that not all small businesses are entrepreneurial. He contends that many small business owners start with low growth ambition while entrepreneurs normally aim for high-potential enterprise. However, Matlay and Westhead (2005) believe that entrepreneurship can take a variety of forms in all sizes such as micro, small, medium and large businesses. Despite these differences Ahmad, Baharun and Rahman (2004) believe that small medium enterprise (SMEs) is normally the starting place of entrepreneurs. When it comes to education according to Jones and English (2004), entrepreneurship can be viewed in terms of the skills that can be taught and the characteristics that can be engendered that will enable the individual to develop new and innovative plans. Jaafar and Aziz (2008) opine that entrepreneurship education can be viewed as a platform to inculcate new entrepreneurs. Falkang and Alberti (2000), enterprise education (EE) focuses on developing enterprising students and inculcates an attitude of self-reliance using appropriate learning processes. The burning question in research study concerning entrepreneurship education is whether entrepreneurs are naturally born or can be trained. However, Manson and Western (2004) postulated that the characteristics assigned to successful entrepreneurs such as intelligence, creativity, risk management, tolerance of uncertainty and persistence in achieving an inner goal are not so different from those of successful engineers. The probability of building engineering students becoming job-creators' instead of job-seekers is based on whether the education is “for” entrepreneurship or “about” entrepreneurship. According to Laukkannen (2000) there are two areas of entrepreneurship education that academics need to consider.
(1) Education “about” entrepreneurship. This involves developing, constructing and studying the theories referred to the entrepreneurs, the firm creation, the contribution to economic development, the entrepreneurial process and the small and middle sized firms. It takes into account undergraduate, Masters and PhD students as well as policy makers and researchers. It views entrepreneurship as a social phenomenon.

(2) Education “for” entrepreneurship. This addresses present and potential entrepreneurs with the objective of developing and stimulating the entrepreneurial process, providing all the tools necessary for the start-up of a new venture both within an outside an existing organization.

Arguably, to enable students to become job-creators instead of job-seekers once they leave the education system, entrepreneurship modules should focus on education for entrepreneurship rather than about entrepreneurship.

3. METHODOLOGY

The study relies on the review of building entrepreneurship modules against recent and old studies of entrepreneurship education. This approach aims to critical evaluate the building entrepreneurship modules and expose those modules that do not necessary promote the successful creation of SMME’s. The study attempts to re-conceptualize those modules and highlight the importance of entrepreneurship education towards the crucial role in transforming our country’s economy from stagnation and jobless growth, to that of a vibrant and high growth of SMME’s to both Built Environment lecturers and students. Furthermore, the study helps to construct a practical building entrepreneurship program to provide learners with opportunity to develop entrepreneurial skills that can be transformed into real life experience. European Commission (2008) argues that the goal of entrepreneurship education should intend that whatever the graduates from technical faculties are working on; they always keep an eye on the entrepreneurial aspects. According to Neumann (2000) a researcher can collect data bearing in mind a research question and variables, and then reassemble the information in new ways to address the research question. Furthermore, Mouton (2001) defines a non-empirical study as analysis of the meaning of words and concepts through clarification and elaboration of deferent dimensions and meanings. The study is designed and carried out by critical evaluating the various building entrepreneurship modules, and then determining whether they add value to the successful creation of
SMME’s to Built Environment students. Current debates, developments, meanings, aims and elements of entrepreneurship education are presented on this study. Earlier and current studies were examined to establish the theme of entrepreneurship education. The relevant articles, journal papers, conferences papers and textbooks were utilized to compose the theoretical framework of the study. As listed above, there are many modules taught in the building entrepreneurship program. To this end, the study is limited at this stage to the literature review and the evaluation of only 2 modules (offered at CPUT) together with general methods utilized by the Board of Examination System dominating institutions; to evaluate the course mark of the building engineering students. The evaluation of other modules from future research papers will inform the development of the rest of the research activities.

4. ENTREPRENEURSHIP EDUCATION IN BUILT ENVIRONMENT

4.1 Building entrepreneurship module

Degree programmes in the Built Environment at NMMU is offering courses and topics related to entrepreneurship, consider a case below for both construction management and quantity surveying Bachelor of Technology Degrees:

<table>
<thead>
<tr>
<th>Building Entrepreneurship IV modules</th>
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<tbody>
<tr>
<td>Module</td>
</tr>
<tr>
<td>Building Entrepreneurship IV</td>
</tr>
<tr>
<td>BTech (Quantity Surveying)</td>
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<tr>
<td>BTech (Construction Management)</td>
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</table>

Source: NMMU Department of Construction Management (2009)

However, one needs to differentiate between a general business and economics studies and entrepreneurship education. European Commission (2008) asserted that the goal of entrepreneurship education is to promote creativity, innovation, risk-taking and self-employment and should not be confused with general business and economics studies. Furthermore,
according to European Commission (2008) entrepreneurship education includes the following elements:

- developing personal attributes and skills that form the basis of an entrepreneurial mindset and behavior (creativity, sense of initiative, risk-taking, autonomy, self-confidence, leadership, team spirit, etc.);

- raising the awareness of students about self-employment and entrepreneurship as possible career options;

- working on concrete enterprise projects and activities; and

- providing specific business skills and knowledge of how to start a company and run it successfully.

Brijlal (2006) argue that entrepreneurship modules in universities are focusing too much on business management skills, and little emphasis is placed on motivation of the entrepreneur as a person. As an educational program entrepreneurship should meet and reduce the challenge of the fear of failure, promote factors for entrepreneurial activeness and instil strong self-esteem to students. Not opposing the fact that entrepreneurs do need business management skills, Koiranen (2008) opine that entrepreneurship is often about bringing about change and making difference. He further listed that one of the skills needed by entrepreneurs when dealing with other people is: leadership; motivation; delegation; communication and negotiation. The necessity of experience in learning entrepreneurship is so much that many researchers believe there is no other way possible to learn entrepreneurship rather than personal experience (Henry, et al., 2005). Even though there is still an ongoing argument on whether entrepreneurs are born or bred, Henderson and Robertson (2000) believe that even though we cannot teach someone to be an entrepreneur, we can teach the entrepreneurial skills needed to be successful. Arguably, the current education system employed to teach “Building Entrepreneurship” or any other program hoped to enhance entrepreneurial behaviour or an enterprise mindset of students in a classroom approach will have less impact towards inspiring and enabling students to start-up a sustainable enterprise contractor. Hence, Harris and Gibson (2008) claimed that the “high involvement in experiential activities can better enable students to reach their entrepreneurial potential via skill attainment and increased expectations for success”.
4.2 Assessment method utilized in building entrepreneurship modules

Believing that there is more to practice of medicine than knowing, Miller (1990) argued that the Board examination system (dominating institutions) utilizes incomplete tools in assessing only “knowledge base” of medical students to evaluate what is required of them to carry out professional functions effectively. He further argues that medical graduates must “know how” to use the knowledge they have accumulated, for otherwise they may be little more than “idiot servants”. Similarly, building engineering student must be evaluated concerning the “know how” to use the knowledge they have accumulated in the entrepreneurial education program. The table below demonstrates a typical evaluation system utilized by Board of Examination of Built Environment departments to assess engineering students' knowledge concerning entrepreneurship:

<table>
<thead>
<tr>
<th>Building Entrepreneurship Module and Assessment</th>
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<tbody>
<tr>
<td>BTech: Quantity Surveyor / Construction Management</td>
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<tr>
<td>Module:</td>
</tr>
</tbody>
</table>

Eighty per cent (80%) mark of the evaluation assess the students' base “knowledge” only. This is supported by a ground breaking research findings showing that South African universities use 80 per cent theory (class time) and only 20 per cent outside classroom methods in teaching entrepreneurship (Co and Mitchell, 2006, p. 354). The theory is broken down to business plans 32 per cent, lecture, 26 per cent, and case studies 22 per cent. However, there is more to practice of entrepreneurship than knowing and a more practical assessment approach can better do the job. To this end, the figure below demonstrates a framework proposed by Miller (1990) for evaluating the medical students' capacity to carry out their professional functions effectively.
This diagram suggests that the Board of Examination System dominating institutions would be insufficient if students are evaluated based on knowledge only. Miller (1990) believes that medical students must not only demonstrate the "know how" but also must "show how" they do it. According to Miller (1990) the "show how" evaluates the students' performance and the "know how" evaluates the students' competence. Equally, building engineering students must not only be evaluated with pen and paper exercises, but also must be evaluated concerning their performance to start, run and manage the small construction related businesses during their academic year. The feasibility of building engineering students to become job-creators when they leave education system becomes a matter of concern when Gauteng Treasury (2009) report characterizes construction industry as a temporary and insecure employment sector. Both medical physician and engineer entrepreneur students need at some point of their study to be evaluated pragmatically concerning both their competence and performance. Arguably, no student can learn to become a doctor or even to become an entrepreneur out of theory. In addition, the lecturers doing the teaching should be to some extent entrepreneurs themselves, building their input on real-life experience (European Commission, 2008). Successful initiative programs indicate that...
the best adviser for a start-up entrepreneur (particularly in early stages) is entrepreneur with own real life experience (Prasad, 2007). Arguably, it is lecturers who are entrepreneurs-themselves who can scout and or train young entrepreneurs.

4.3 Evaluation of building entrepreneurship modules

The study is limited at this stage to the literature review and the evaluation of only 2 modules (lecture 1 and 3) of building entrepreneurship program offered at CPUT. The evaluation of other modules from future research papers will inform the development of the rest of the research activities. The following table contains detail modules of building entrepreneurship course.

<table>
<thead>
<tr>
<th>Building Entrepreneurship IV modules</th>
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<tbody>
<tr>
<td><strong>LECTURE 1</strong></td>
</tr>
<tr>
<td>Learn the concept of entrepreneurship</td>
</tr>
<tr>
<td>Discover the extent of the entrepreneurial discipline</td>
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<tr>
<td>Understand the characteristics and strengths of an entrepreneur</td>
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<tr>
<td>Identify the personal attributes and mental tools of the entrepreneur</td>
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<tr>
<td><strong>LECTURE 2</strong></td>
</tr>
<tr>
<td>Understand the relationship between the economy and entrepreneur</td>
</tr>
<tr>
<td>Discover the essential difference between entrepreneurship and small business</td>
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<td><strong>LECTURE 3</strong></td>
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<td><strong>LECTURE 6</strong></td>
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<tr>
<td>The implementation factors of entrepreneurship</td>
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<tr>
<td>Identify trends in distribution strategy</td>
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<tr>
<td>Decide on type of distribution (logistics)</td>
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<tr>
<td>Identify how to use distribution strategy to compete in the market</td>
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<tr>
<td>How to sort out consumer and industrial channels</td>
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<td>Checking available channels</td>
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<tr>
<td><strong>LECTURE 7</strong></td>
</tr>
<tr>
<td>Financial factors for the entrepreneur</td>
</tr>
<tr>
<td>Determine the extent of service/production</td>
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<tr>
<td>The tree way calculation of demand</td>
</tr>
<tr>
<td>How to forecast sales</td>
</tr>
<tr>
<td>Calculating the costs/spending</td>
</tr>
<tr>
<td>What are the general and administration costs</td>
</tr>
<tr>
<td>The implication of taxation</td>
</tr>
<tr>
<td>How to prepare financial statements</td>
</tr>
<tr>
<td>How to calculate profit and loss – the statement of income</td>
</tr>
</tbody>
</table>
### LECTURE 3
**Define the extent of the business landscape**
- Describe the concept opportunity
- Sensitize the learner to the identification of opportunity
- Itemize business opportunities in theoretical terms

### LECTURE 4
**Opportunity and entrepreneurial motivation**
- The opportunity to create wealth
- Beneficiaries of entrepreneurial ventures

### LECTURE 5
**Establishing a strategy for ethical responsibility**
- Identify the nature of good
- Decide on why unethical behavior exists
- Identify ethical practices
- Define code of conduct
- Discover approaches to managerial ethics
- Expose the holistic approach
- Find the meaning and purpose of ethical responsibility under the following headings:
  - ethical consciousness
  - ethical process and structure
  - institutionalization
  - Ethics and business decisions
  - complexity of decisions
- questions to examine the ethics of business decisions
- Discover the responsibility challenge
- Expose the benefits of social responsibility
- Identify trends in environmental awareness
- Expose the nature of social responsibility in terms of the environment
- Classify corporate social behavior
- The opportunity for ethical leadership by entrepreneurs

### LECTURE 8
**The business plan**
- Decide on the feasibility of the business
- Understanding business plans
- Establishing your vision
- Addressing the needs of target audience
- Learn the eight detailed components of a business plan
- Know the steps toward the completion of the business plan

### LECTURE 9
**The Copyright Act**
- The purpose of the Act
- Its amendments
- Definitions
- Copyright in original works
- Infringements of copyright and remedies
- Copyright tribunal
- Extension or restriction of operation of Act
- Miscellaneous provisions

### LECTURE 10
**The Patents Act**
- The purpose of the Act
- Its amendments
- Definitions
- Its administration
- The register of patents and the patent journal
- Powers and duties of registrar and commissioner
- Patent agents and patent attorneys
- Applications for patents
- International applications under the patent
- Grant, duration and effect of patent
- Corrections and amendments
- Licenses
- Assignment, attachment and hypothecation of patents and applications for patents
- Revocation of patents
- Infringement
- Evidence
- Appeals to commissioner and the court
- Acquisition of rights to inventions and patents by the state
- Offences and penalties
- Miscellaneous
**LECTURE 11**  
**International Entrepreneurship - Part 1 : Globalization**  
Understand the globalization concept  
Understand the extent of appreciation of the global situation with emphasis on the African continent including an understanding of the advantages and disadvantages of globalization  
Discover the South African situation including an understanding of the advantages and disadvantages of globalization especially in terms of national and international focus  
Understand the role of general agreement on trade and tariffs (GATT), the World Bank (WB) and the International Monetary Fund (IMF), etc.  
Understand the influences of globalization of developed and developing nations  
Understand the impact of globalization for the entrepreneur

**LECTURE 12**  
**International Entrepreneurship - Part 2 : The political factor**  
Understand the impact of the political environment  
Establish the workings of politics in a nation  
Identify the types of political systems most practised in the world  
Understand the systems which underpin the political system  
Identify and grasp the roles of the legislative and legal institutions and identify the influences of the political system on business

**LECTURE 13**  
Establish the meaning of nation as a descriptive of the term society  
Determine the importance of culture as a concept  
Identify and understand the behavioral association, which affect business  
Establish the importance of work in culture  
Understand the importance of reconciling international differences  
Understand the terms polycentrism, ethnocentrism and geocentrism and their cultural implications  
Determine and grasp the role of factors which affect change in culture  
Understand the cultural dimensions of international marketing (C9)

**LECTURE 14**  
**International Entrepreneurship - Part 4 : A - The Economic Environment**  
Understand the economic systems classifications  
Identify countries by classification  
Understand and identify the macro-economic issues in international business  
Grasp the steps of adapting to foreign economic environments in the process of internationalization  
Identify some ethical dilemmas  
**B - The Global Monetary System and Foreign Exchange Market**  
Understand and have a keen grasp of the international monetary system  
Have a reasonable grasp of the foreign exchange market  
Understand foreign exchange markets and rates and rate determination  
Have a reasonable understanding of exchange rate forecasting

Source: CPUT: Department of Built Environment (2009)
4.3.1 Module 1 (lecture 1)

- Learn the concept of entrepreneurship
- Discover the extent of the entrepreneurial discipline
- Understand the characteristics and strengths of an entrepreneur
- Identify the personal attributes and mental tools of the entrepreneur

Module 1 introduces the building engineering students to entrepreneurship discipline and to an entrepreneur as an individual. Each student is required to select one entrepreneur and study thoroughly the historical background, present and future ambitions concerning the business organization of the selected entrepreneur. The moral story behind the module is to draw up common aspects, routes, challenges and personal qualities of what makes a successful entrepreneur. According to Laukkannen (2000) this module establishes theories about entrepreneurs and their entrepreneurial processes. Arguably, this module provides “knowledge” about an entrepreneur and his/her successful entrepreneurial story. However, according to Politis (2005, p. 407) entrepreneurial learning is an experiential process in which knowledge develops through experiencing, reflecting, thinking and acting. Hence, European Commission (2008) opine that just reading to know about entrepreneurship is not an adequate starting point for introducing, enhancing entrepreneurial behaviors’ and influencing the intentions of students from engineering faculty. With traditional classroom approach students will hardly discover the extent of the entrepreneurial discipline, because this approach tie the “trainee entrepreneur” to the four walls of the classroom, depriving him or her of the experiential, authentic real life learning experience (Dhliwayo, 2008). In addition, Brijlal (2008) asserted that a formal training towards who would be entrepreneur can be less helpful than hoped. He further believes that in developing skills of entrepreneurs for small businesses, training ought to be less formal and focus more on hands-on approach. Timmons and Spinelli (2004, p. 66) asserted that there is a limit in what can be taught in entrepreneurship education and the only way to learn is through one’s own personal experience. Therefore, for students to understand the characteristics and strengths of an entrepreneur modules should be learner-centered. Research seems to suggest that successful entrepreneurial training has more to do with learning by doing rather than reading and understanding the concept of entrepreneurship. Advocating that entrepreneurs are exceptional learners who learn by doing, Raffo et al. (2000, p. 360) and Smilor and Chak (1997, p. 344) opine that entrepreneurs gain knowledge from almost everything, from everyone, customers, suppliers, competitors and employees. Arguably, for building engineering students to learn about entrepreneurship experiential learning is needed. Hence, a general perception exists that engineering students will appreciate a more practical approach in learning about entrepreneurship.
(European Commission, 2008). Introduction of business enterprise to students with no-business degrees background requires students to set up and run their own business for the duration of the academic year. This pragmatic approach is coupled with modules introducing students to entrepreneurship and its attended strategies. In Finland, the “entrepreneurship education for engineering first-year student is operated in a virtual practice enterprise network where everything else is like real life experience except money and goods are not moving anywhere” (Kontio, 2006). Arguably, for building engineering students to understand the characteristics and strengths of an entrepreneur, the subject should be practical. As a practical subject, entrepreneurship program provides learners with opportunity to develop skills that can be transformed into real life experience (Brijlal, 2008). Believing that entrepreneurship training can help to stimulate entrepreneurial attributes to improve employment Friedrich (2005) asserted that training should be workable (practical) as opposed to traditional theoretical approach. Arguably, Module 1 does not thoroughly introduce engineering students to an entrepreneur and his entrepreneurial processes.

Therefore, in order to introduce or even educate building engineering students about the concept of entrepreneurship in order discover the extent of the entrepreneurial discipline, training has to focus more on hands-on approach, or else students might forget by the time they graduate and leave the education system. Hence, Chinese believe that:

“Tell me and I'll forget; show me and I may remember; involve me and I'll understand” (Chinese Proverb)

Arguably, for students to thoroughly discover the extent of entrepreneurial discipline modules should be both pragmatic and learner-centered. This pragmatic approach can be achieved through several teaching methods. For example, Frese, et al. (2003) states that action leaning requests learners to take an active approach (e.g. learn-by-doing) and lean extensively from the positive and negative feedback. This process might reveal the students’ hidden personal attributes and mental tools that are commonly assigned to successful entrepreneurs.

4.3.2 Module 2 (lecture 3)

- Define the extent of the business landscape
- Describe the concept opportunity
- Sensitize the learner to the identification of opportunity
- Itemize business opportunities in theoretical terms

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1 Postgraduate Diploma in Management: Enterprise Management
Proceedings 5th Built Environment Conference
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18-20 July 2010 Durban, South Africa
Module 2 aims to introduce the building engineering students to the business environment with an intention to inspire the learner to see the window of opportunity. The intentions are good, yet the teaching method is questionable. If students are requested or obligated to define, describe, sensitize and itemize the business landscape, the concept of opportunity, the identification of opportunity and the business opportunities in theoretical classroom approach, they can hardly turn ideas into real-life experience once they leave the education system. Hence, when it comes to entrepreneurship education the content for both business and non-business students might be similar, “but the way of delivering it will be different (European Commission, 2008). As mentioned earlier, a general perception exists that engineering students will appreciate a more practical approach in learning about entrepreneurship (European Commission, 2008). To this end, a more experiential approach is needed. According to Kolb (1984), an experiential learning is the process whereby knowledge is created through the transformation of experience.

According to Botha (2006, p. 57) most of entrepreneurial programs give “high attention to the knowledge aspects but are weak on the skills and attitudinal aspects that are crucial to the success of any potential or start-up entrepreneur”. Accordingly, defining, describing, sensitizing and itemizing will leave the students well informed about the entrepreneurial theories and opportunities. Alfred North Whitehead pointed out that: “there is nothing more useless than a merely well informed man” (Cited by Miller, 1990). This is evident to a number of unemployed graduates who have obtained an entrepreneurship university degree from business school and now lost in the maze of job-seekers. According Dhliwayo (2008) an increase in practical demand in relevancy for application of knowledge is needed. O’Neill (2004, p. 5) posed a research question that reads, “What does an entrepreneurship student become if he or she does not become an entrepreneur”?

If odds are hard for entrepreneurship graduates to taken ideas into real-life business when they do not find placement in the labor market. How difficult it is to Built Environment students with one year compulsory entrepreneurship program to taken ideas into real-life experience. However, Manson and Western (2004) opine that the characteristics assigned to successful entrepreneurs such as intelligence, creativity, risk management, tolerance of uncertainty and persistence in achieving an inner goal are not so different from those of successful engineers. In Canada, 40% of engineering graduates who received entrepreneurial training had started their own small businesses (Menzies and Paradi, 1999). Dhliwayo (2008) strongly believe that through experiential learning it is possible to produce entrepreneurs in the same way nurses are produced through appropriately designed work integrated learning.
Arguably, defining (business landscape), describing (concept of opportunity), sensitizing (the identification of opportunity) and itemizing (business opportunities) particularly in a theoretical classroom approach promote education “about” entrepreneurship. To building engineering students, education about entrepreneurship promotes nothing but awareness about entrepreneurship. Hence, the Interim Status Report 2 about entrepreneurship education under the quantity surveying and construction management degrees, suggest that a graduate will be able to demonstrate awareness of entrepreneurship (NMMU, 2009). To a country were unemployment is so rife, education which promotes demonstration awareness about entrepreneurship rather than which inculcates successful creation of SMME’s needs to be changed. Hence, Dhlawayo (2008) opine that a new approach needs to be put in place if entrepreneurship education and training is indeed to produce entrepreneurs. This theoretical classroom approach adds no value towards practical successful creation of (SMME’s) to Built Environment students. This is because classroom approach utilizes pen and paper exercises with no emphasis on imagination, creativity and innovation (O’ Neill, 2004, p. 4). Furthermore, Smith (2005, p. 357) noted that entrepreneurship education is disconnected from practice. In effect, it leaves the building engineering students with knowledge to define (business landscape), describing (concept of opportunity), sensitizing (the identification of opportunity) and itemizing (business opportunities), with no effect on practice. The study of entrepreneurship is still undeveloped (Kuratko, 2005, p. 583) and it needs further research concerning the way it should be taught. Jones and English (2004, p. 416), opine that a different approach that which divert from the traditional lecture centred and business disciplines such as management and marketing, is needed.

5. CONCLUSIONS AND RECOMMENDATIONS

To contribute to the full personal development of each learner and the social and economic development of society at large, developing entrepreneurial opportunities must be the intention underlying any curriculum program (National Qualification Framework, 2000). This intention has raise hopes that if entrepreneurship program can be integrated into engineering curriculum, students will somehow be able to become job-creators instead of job-seekers once they leave the education system (Co and Mitchell, 2006). However, the feasibility of entrepreneurship education towards inculcating the building students to become job-creators instead of job-

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seekers depends both on its teaching methods and curriculum content. The reviewed building entrepreneurship modules are found to be focusing on education “about” entrepreneurship, rather than for entrepreneurship. The problem of unemployment, crime, stagnate economic growth and characterization of construction industry as a temporary and insecure employment sector” by Gauteng Treasury report in 2009, has drawn the attention of South African government to see self-employment as one possible solution. It is recommended that in order for students to practice entrepreneur in real-life experience once they leave the education system, building entrepreneurship should be viewed and taught as a practical programme. European Commission (2008) opines that engineering students will appreciate a more practical approach in learning about entrepreneurship. If South Africa is serious about transforming economy from stagnation through creation of SMMEs, students should be encouraged and influenced to a point where they see self-employment as a dignified career option (Brijlal, 2008). Entrepreneurship education can represent a positive influence in dignifying self-employment as a career option, and in turn promote entrepreneurship as a useful and respectable career prospect for graduates (Galloway and Brown, 2002).

6. REFERENCES


Durban University of Technology, 2009, Faculty of Engineering and the Built Environment.


NMMU Department of Construction Management, 2009, Built Environment Interim Status Report.


Prasad, T., 2007, Development Enterprise Culture among the students through intercollegiate competitions: A case of student enterprise competition (SEC).


The NQF, 2000, Curriculum Development Publication date: May 2000 A publication of the South African Qualification Authority.