

# Entrepreneurship Education: Towards an Innovative Approach

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## Abstract

Over two decades into the introduction of the entrepreneurship education in Polytechnics in Ghana as a compulsory course, little assessment has been done on the teaching and learning of the course. This paper presents the findings on the assessment of the progress of entrepreneurship education in Ghanaian Polytechnics. This study is expected to contribute to existing empirical knowledge regarding the teaching and learning of entrepreneurship in higher educational institutions in a developing country context. The evaluation criteria of entrepreneurship education was based on *what is taught, how it is taught and the context in which the entrepreneurship education is taking place in the polytechnics*. Mixed method research design was used to collect and analyze data from five Polytechnics out of the ten which were selected in random. It was primarily found that entrepreneurship education in the polytechnics involves more of theoretical and foreign knowledge impartation than the development of practical skills which can be applicable to the Ghanaian ecosystem. It concludes with a discussion on innovative approaches to teaching and learning of entrepreneurship to reflect the needs of the local ecosystem.

**Keywords:** entrepreneurship education, higher educational institutions, innovative pedagogy

## 1. Introduction

Entrepreneurship is viewed as a major driver of innovation, competitiveness and growth. National governments and international organizations such as the Organization of Economic Cooperation and Development, the European Commission among others have increased their focus on entrepreneurship (Wilson 2008). Studies, especially in developed countries have examined the effectiveness of entrepreneurship education in academic institutions and confirmed the enormous benefits associated with it (Global Entrepreneurship Training, 2013; Buame, 2010; Global Entrepreneurship Monitor, 2008; Vesper & Gartner, 1997). These studies have found that the field of entrepreneurship has contributed largely to the transformation of many developed economies. Entrepreneurship education plays a significant role in sustaining the level of development already achieved and aiding further development. In developing countries, entrepreneurship education is viewed as the key that unlocks the door to modernization as a determinant of all aspects of change (GEM 2008).

Higher educational institutions in America pioneered the entrepreneurship education with the introduction into MBA courses in 1947 (Katz, 2003). Later, a dynamic development process in entrepreneurship training started in the early 1970s advancing to become one of the most important directions of the education of tomorrow. Entrepreneurial education, which received important recognition and attained significant growth in recent decades in Europe, Asia and most African countries (Global Entrepreneurship Monitor, 2008), has encouraged the entrepreneurial mindset of people. Researchers in the field argued that entrepreneurship can be taught, as the myth that entrepreneurs are born not made, is not valid (Kuratko, 2003; Lall & Sahai, 2006).

Scientific research has proven that the human brain can be conditioned under stimulating environment to become creative and individuals can acquire entrepreneurial knowledge, develop the requisite skills and consequently create and manage their own business ventures. Wilson (2008) points out that Europe's competitiveness, innovation and economic growth depends on being able to produce future leaders with the skills and attitudes to be entrepreneurial in their professional lives, whether by creating their own companies or innovating in larger organizations. Entrepreneurship education is the first and arguably the most important step for embedding an innovative culture in any nation. Global Entrepreneurship Training (2013) clearly states that entrepreneurship has been the main engine and driving force for developed countries, and it will surely be the engine that will propel developing countries to catch up with the developed countries. GEM (2013) further argues that entrepreneurship is the way to plant a hope in the minds of the people in the developing countries and build the capability for sustained development in the regions.

It is therefore incumbent on higher educational institutions to train and prepare students to work in a dynamic, rapidly changing entrepreneurial and global environment. To ensure that higher educational institutions produce graduates who can mobilize local resources to create their own enterprises and offer employment to themselves and to others, the government of Ghana has established polytechnics in the ten regions of the country. These polytechnics are to bridge the gaps created by the universities in areas of the provision of both practical and theoretical entrepreneurial skills to citizens.

The polytechnics which have been established over two decades ago are tasked to provide tertiary education to train middle level manpower in the fields of manufacturing, commerce, science, applied social sciences and applied arts. These polytechnics are mandated to provide opportunities for skills development and applied research. In order to fulfill this mandate and churn out competent graduates who can apply the knowledge and skills to set up their own business ventures, entrepreneurship education was introduced as a compulsory subject in the polytechnics. Entrepreneurship education was introduced in the curriculum of the polytechnic with the identification of the need for students to be exposed to the benefits and difficulties of starting their own ventures. Entrepreneurship education has been identified as a unique opportunity for polytechnic students to acquire entrepreneurial skills and knowledge and also as an avenue for growth and self-development.

Before the introduction of entrepreneurship as a subject in the Polytechnics, it was sparsely taught in the universities. The content and pedagogy of entrepreneurship studies were adopted by polytechnics without modifications to suit the programmes being offered. It was observed that entrepreneurship studies in the universities followed the conservative business education approach with the conventional teaching methodology (Buame, 2010). However, by its very nature the teaching or facilitation of learning in the entrepreneurship discipline, demands an innovative and, in some cases unconventional approach. Buame (2010) further observes that since the inception of entrepreneurship education in higher educational institutions in Ghana, little empirical knowledge exists on courses offered and teaching strategies employed. This study is therefore influenced by a perceived need to assess the progress of entrepreneurship education in Ghanaian Polytechnics. This assessment will help in suggesting innovative approaches to the teaching and learning of entrepreneurship, which will lead to the achievement of the objectives of entrepreneurship education.

Researchers (Wilson, 2008; Vesper & Gartner, 1997) argue that when assessing entrepreneurship education practices around the world, it is important to examine the courses offered, the teaching and learning strategies and what works. Over two decades in the introduction of entrepreneurship education into Polytechnics in Ghana, one needs to do some assessment. This study aims at assessing the approach being used to facilitate the teaching and learning of entrepreneurship in polytechnics. It also seeks to find whether the relevant and requisite knowledge and skills are being imparted to the students. The study also aims at recommending some innovative approaches from best practices which will be useful for the achievement of the objectives of entrepreneurship education. It is paramount that entrepreneurial education addresses the ambiguous nature of business creation and impacts the necessary social and transferable skills that will be useful to students in the mobilization of local resources to set up their business ventures.

## **2. Entrepreneurship Education**

Entrepreneurship serves as a catalyst in the development of developing economies as without the participation of risk takers economic growth can be limited. Since the early 1980s, entrepreneurship has emerged as an important focus for practitioners and academia across the world (Davey et al, 2011; Shane & Venkatraman, 2000). Through entrepreneurship education, young people, learn organizational skills, including time management, leadership development, and interpersonal skills. The entrepreneurship education has developed over time several lines of approaches to set theory in order to contribute to the development of the business profile in higher education students (Franco et al, 2010).

Several studies (Shepherd & Patzelt, 2011; GEM, 2008; Hisrich, 2004; Luthje & Franke, 2002) have examined the rise of entrepreneurship education. For example, higher educational institutions in Europe are particularly active in new forms of entrepreneurship education with the creation of more than 30 chairs in entrepreneurship between 1997-2004 (Rocha et al., 2013; Wilson, 2008; Volkman, 2004; Klandt, 2004). These developments are not limited to the developed world. Latin American universities are seeing a growing commitment to development entrepreneurial in abilities among students and graduates (Marques et al., 2012). Buame (2010) found that in Ghana, the trend towards university-wide entrepreneurship education was gaining momentum.

Wilson (2008) believes that entrepreneurship is the future of business schools and that it is beginning to move into leadership role. There is an interesting dialectic in the business education field between control and

creativity. Meyer (2001) characterizes these conflict approaches as divergent thought-systems. There is an “ideological chasm” between the control oriented management disciplines such as finance and accounting and entrepreneurship teachers who value the creation process. Hindle (2004) believes that entrepreneurship education is fundamentally at odds with the orientation of the typical university-based business school both in terms of the way material is taught and evaluated.

Successful entrepreneurs have the ability and willingness to recognize and capitalize on opportunities. Because that ability transcends academic discipline and offer opportunities in virtually all fields of endeavour, the chance to develop and apply entrepreneurial skills must be provided to all interested students, regardless of their fields of study (Weaver & Schoen, 2005). Research by Fredrick (2005) shows that students with any academic discipline background – be they in art or architecture, sport or health – who have had just one course in entrepreneurship or personal enterprise are very likely to be self-employed, to start successful businesses and to launch social enterprises. Evidence suggests that most of the best ideas in business plan competitions came from non- business majors. Many of the strongest contributors are non -business students, and some of the most innovative entrepreneurial initiatives do not involve business schools (Frederick, 2005).

Entrepreneurship education teaches students to look forward to change rather than to fear it. Entrepreneurs look at risk and see opportunity. As young people are taught about potential new ventures (be they social or business), they learn to analyze opportunities available to them. Social and business entrepreneurs are united personally-wise in the need to accomplish new things through inventions, new services, new approaches and a new version of a product or service targeted to particular niches, lifestyle or social needs. Entrepreneurs offer a cheaper and better and more socially sustainable product or service, solve problems in an entirely different way and offer a location more convenient than is offered by other competitors. The enterprising spirit and personality formation have long been studied. Willingness to become an entrepreneur is actually a complex phenomenon that begins in childhood and continues through the stages of life. Some people have latent entrepreneurial personalities that develop later in life.

Among the anticipated outcomes is an identification of the focus of the education to improve the ‘students’ ability to perform entrepreneurial action as a practical application, or to undertake a study designed to enhance academic leaning on entrepreneurship. Applicable and appropriate theories are to be identified as they relate to the central entrepreneurial problems, how to discover opportunities and evaluate them, and how to marshal resources, giving the individual a competitive advantage in entrepreneurial facilitation. Generally, there is an increasing demand for innovation and creativity in research and teaching and a well studied relationship between education and business creation (Wilson, 2008; Delmar& Davidson, 2000; Cowling & Taylor, 2001; Luthje & Franke, 2002). From these reflections, the need is evident for a review of how universities are responding to the pressure to expand entrepreneurial teaching beyond the business faculty, and to adjust pedagogically and methodological instruments for entrepreneurship. Researchers have strongly advocated that the pedagogy of entrepreneurship should consist not only a deeper understanding of the global and economic environment but also the unique surrounding complexities and how opportunity and business become the integral part of the complexity (Rocha et al, 2013; Wilson, 2008).

Entrepreneurship scholars (Marques et al., 2012; Engle et al, 2010; Buame, 2010; Wilson, 2008) have identified different approaches to entrepreneurial education. These authors found that approaches to entrepreneurial education in the more advanced countries differ from those of the less advanced countries. For instance, in the developed countries entrepreneurial education focus more on *creativity, innovation and thinking outside the box*. In the less developed countries, the emphasis is on how to develop a positive attitude towards entrepreneurship and self- employment among students.

Interestingly, only few researches have been conducted regarding entrepreneurship education in higher institutions in Ghana (Buame et al, 2010; Buame et al, 2006). Entrepreneurship is a subject that needs to be developed, as it is seen as a very important issue in the whole world. A global study of entrepreneurship has emerged which aims to measure various constructs relating to entrepreneurship teaching. This study is called Entrepreneurship Education Project (EEP) and it is a joint project conducted in over 800 countries with coverage of more than 400 universities (Rocha et al, 2013). An evaluation of the major components of entrepreneurship education in Ghana can influence and lead to a more effective and efficient teaching and learning of the subject.

### **3. General Objectives of Entrepreneurial Education**

Even though there are different approaches to entrepreneurial education globally, existing literature identifies certain general objectives (Marques et al., 2012; Davey et al, 2011; Buame, 2010). The objectives include: To

create and harness the power of entrepreneurship through education. To turn out a new generation of students who can start new enterprises or renew existing businesses. To make students nurture and develop entrepreneurial characteristics and attitudes including the two strands of being an entrepreneur and being entrepreneurial that is satisfying both the academic and vocational stream needs of entrepreneurial education. To develop a sense of innovation in young people and to develop their skill to identify, create, initiate and successfully manage personal, community, business and work opportunities. Entrepreneurship education is a whole developmental philosophy, a change of mind set and paradigm shift in educating the youth.

Significantly, entrepreneurship education plays an essential role in shaping attitudes, skills and culture. Entrepreneurship education provides a mix of experiential learning, skill building and, most importantly, mindset. The earlier and more widespread the exposure to entrepreneurship and innovation, the more likely it is that students will consider entrepreneurial careers at some point in the future.

The objectives of entrepreneurship education are so important that it is crucial to promote a strong educational system in teaching and learning of the subject, so as to encourage constant innovation to enable more students benefit from learning entrepreneurship. Entrepreneurship education to achieve its laudable objectives must be responsive to the intrinsic needs of the local ecosystem (Rocha et al, 2013; Thomas & Kelley, 2012; Wilson, 2008), thus, the need for constant assessment to ensure that innovative processes are introduced into the teaching and learning of the subject.

#### 4. Methodology

The thrust of this paper is entrepreneurship education in Ghanaian higher educational institutions with focus on polytechnics. The study employed a mixed method research design. Ten (10) polytechnics in Ghana appropriately constituted the study population with the staff and students of the polytechnics constituting the target population. Five of these polytechnics: Koforidua, Ho, Cape Coast, Accra and Tamale were randomly selected to form the sample frame for the study.

The data base obtained from the five polytechnics revealed that a total number of 5300 students were offering entrepreneurship course across all disciplines in the polytechnics. The simple random sampling method was used to select a total of 4000 students across all programmes in the five polytechnics. Table 1 presents information on the breakdown of the population, sample size and response rate per each of the polytechnics.

Table 1 Population, Sample Size and Response Rate

Polytechnics	No. of Entrepreneurship Students	Number Selected randomly	Responses	Percentage (%)
Koforidua	1200	800	782	98
Ho	1000	800	735	92
Cape Coast	900	800	720	90
Accra	1400	800	745	93
Tamale	800	800	690	86
<b>Total</b>	<b>5300</b>	<b>4000</b>	<b>3672</b>	<b>92</b>

A well-structured questionnaire was administered to four thousand (4000) students from the five polytechnics through field survey. Stratified sampling was used to select a proportional representation of eighty-five (85) students out of the four (4000) students from each of the polytechnics across the various academic programmes of study namely, Engineering, Business and the Sciences for interviews. In addition, twenty out of the thirty-two Entrepreneurship course lecturers were purposefully selected and an in-depth interview was conducted on them, four from each of the five polytechnics. The interviews were audio taped and transcribed.

Critical issues pertaining to what is taught, *how it is taught and in what context entrepreneurship education is taking place?* were measured by using five items on a 6-point Likert scale in the questionnaire survey asking the respondents to rate the applicable items accordingly. Also, open-ended questions were asked; and all these questions were further explored during the interview with the entrepreneurship course lecturers and the selected students. The questions that were asked include:

- What is taught? – Questions were asked with regards to the specific entrepreneurship topics that were

taught students. The theoretical and practical nature of the course contents was also analyzed. In addition, the content of the entrepreneurship course syllabus was evaluated.

- How it is taught? – The pedagogy employed in the teaching and learning of the entrepreneurship in the polytechnics was also explored.
- In what context is entrepreneurship education taking place? - The study critically examined the context of teaching and learning of entrepreneurship in the polytechnics in Ghana.

Data was collected in all the five Polytechnics, from June to November 2013. A total of 3672 usable questionnaires were collected out of the 4000 that were distributed, yielding 92 percent response rate. The data was analyzed using SPSS to derive the descriptive statistical and relevant statistical measures such as chi-square. The statistical analysis helped to determine the impact of the various components of what is taught and how it is taught to the students. Qualitative data was analyzed manually using content analysis.

## 5. Results

### 5.1 What Is Taught?

In order to gain insight into the content of the entrepreneurship course in the polytechnics, the study included questions about the topics that were taught, including the practical and theoretical components of the course. It was found that the National Board for Professional and Technician Examination (NABPTEX) awards certificate to Higher National Diploma Students graduating from the polytechnics and also designs the Entrepreneurship course syllabus for teaching in the polytechnics. The content of the course taught in all the polytechnics essentially covers the following broad areas: introduction to entrepreneurship, entrepreneurs, Entrepreneurial Ventures, Innovation, Finance for Entrepreneurs, legal, marketing, drawing of Business Plan and Small and Medium Enterprises.

The results of the statistical analysis as presented in Table 2 show that the students from all the polytechnics confirm that their acquisition of entrepreneurship knowledge covers almost all the topics (90%) in the course syllabus. The students also admitted that the knowledge acquired through entrepreneurship education consists mainly of theoretical knowledge (72%). On the other hand the students indicated that they acquired very little practical knowledge and skills (30%) in enterprise creation. The students stated that the Entrepreneurship course was studied primarily as any of the academic courses for the major purpose of passing examinations. The results also indicated that only a small percentage (8%) of indigenous knowledge was incorporated in the syllabus.

Table 2 Frequency Distribution of What Is Taught

Component of Entrepreneurship Education	Frequency	Percentage (%)
Entrepreneurship knowledge	1800	90
Theoretical knowledge	1440	72
Practical knowledge and skills	600	30
Indigenous knowledge	160	8
Total	4000	200

Source:Field Survey, 2014

In trying to find out the effectiveness and impact of what is taught variables (course content coverage, the theoretical knowledge, practical skills, and indigenous entrepreneurial knowledge) on the students, the chi square analysis presented in Table 3 revealed that P-values of  $p = 0.03$ ,  $p = 0.02$ ,  $p = 2.26$ , and  $p = 5.98$  for course content coverage, theoretical knowledge, practical skills, and indigenous knowledge components respectively. With a significant level of  $\alpha = 0.05$ , the conclusion is reached that only the course content coverage and the theoretical knowledge components have impacts on the students out of the entrepreneurship education imparted to them.

Table 3 Chi Square Analysis of What Is Taught

Effectiveness of Courses	Observations( <i>O</i> )	Expected ( <i>E</i> )	<i>P</i> – value
Course Content Coverage	795	800	0.03
Theoretical knowledge	796	800	0.02
Practical skills	759	800	2.26
Indigenous knowledge components	731	800	5.98

Source:Field Survey, 2014

The formula using the calculation of the chi square test ( $\chi^2$ ) is given as

$$(\chi^2) = \frac{\sum (O - E)^2}{E} \quad (1)$$

where *O* the observed data and *E* is the expected data.

Since the *p* – value of Practical skills and Indigenous knowledge components are 2.26 and 5.98 which is greater than 0.05, we conclude that Practical skills and Indigenous knowledge components are the major or effective way of impacting entrepreneurial knowledge through education and training.

The data collected further revealed that most of the knowledge acquired under the topical areas and related examples are foreign to students. For example, the data showed that 99 percent of the recommended entrepreneurship text books and other teaching materials used are all from foreign countries. The entrepreneurship course tutors also corroborated this information and confirmed the lack of local entrepreneurship text books. They said most of the concepts and cases used are foreign and do not focus on Ghanaian entrepreneurs and the local ecosystem. However, the lecturers revealed during the interviews that to bridge the gap of incorporating indigenous knowledge and skills into the entrepreneurship curriculum, they normally organize seminars and invite indigenous entrepreneurs to interact with the students and share practical experience with them. To lecturers this approach is very useful to the students since it exposes the students to the realities in the creation and management of businesses in their type of environment.

The students further pointed out that 30 percent of the practical knowledge and skills acquired consist of training in how to write business plans. Their tutors usually required of them to identify a business opportunity and develop a business plan for it. This enables them to acquire practical knowledge and skills in drawing business plan for their future ventures. Some of the lecturers also confirmed this finding and added that some of the graduates of the polytechnic went on further to develop business plans they drew in school and set up ventures accordingly. However most of the students said the content of the entrepreneurship course was not oriented towards their respective fields, especially those undertaking engineering and science programmes.

All in all, the results revealed that the entrepreneurship course content was rated as very useful (65%), useful (43%), and fairly useful (6%) respectively. Also the respondents believed that the entrepreneurship course will be much more useful and beneficial to them and economy of Ghana if the content is blended with practical entrepreneurial examples and case studies suitable for Ghanaian socio-cultural and economic environment.

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### 5.2 How It Is Taught?

The data collected and presented in Table 4 shows that the various pedagogical methods were employed in teaching and learning of Entrepreneurship in the polytechnics. From the results the students indicated that their tutors mostly used conventional teaching methods such as lecturing (70%) and discussions (54%) in imparting entrepreneurial knowledge to them. Additionally the tutors employ other pedagogical methods including plenary lectures (44%), syndicate (47%), fieldwork (44%), case studies (43%) and project work (20%).

Table 4 How Is It Taught?

Teaching Methods	Frequency	Percentage (%)
Lecturing	174	70
Discussions	134	54
Plenary lectures	109	44
Syndicate	116	47
Fieldwork	109	44
Case studies	107	43

In order to determine the impact and effectiveness of the pedagogical methods (lecturing, discussions, plenary lectures, syndicate work, field work, case study and students' project work presentations) on students, the chi-square analysis presented on Table 5 highlighted p- values of  $p = 0.001$ ,  $p = 2.82$ ,  $p = 1.41$ ,  $p = 3.73$ ,  $p = 3.52$ ,  $p = 6.74$ ,  $p = 3.26$  for lecturing, discussions, plenary lectures, syndicate work, field work, case study and students' project works presentations respectively. With a significant level of  $\alpha = 0.05$ , the conclusion is reached that only lecturing has an impact on the students. Other pedagogical methods employed are insignificant.

Table 5 Chi Square Analysis of How It Is taught

Conventional Teaching Methods	Observations( <i>O</i> )	Expected ( <i>E</i> )	<i>P</i> – value
Lecturing	796	800	0.001
Discussions	753	800	2.645
Plenary lectures	766	800	1.445
Syndicate	746	800	3.730
Fieldwork	747	800	3.52
Case studies	727	800	6.74
Project work	749	800	3.26
Total		4000	

Source:Field Survey, 2014

The formula using the calculation of the chi square test ( $\chi^2$ ) is given as

$$(\chi^2) = \frac{\sum (O - E)^2}{E} \quad (2)$$

Where *O* the observed data and *E* is the expected data.

The qualitative data collected from the tutors also revealed that most of them largely employ conventional teaching methodology, especially lecturing in order to ensure that students understand the fundamental concepts

of entrepreneurship. Some of the tutors also stated that they rarely employ innovative pedagogical methods such as asking students to undertake field work by identifying and interviewing indigenous entrepreneurs in the community for sharing advice and sharing experiences. They added that sometimes students were also required to make presentations on various topics studied. Most of the lecturers revealed during the interviews that attendance to class and participation in class discussions are however compulsory. They therefore make some effort to blend practical pedagogical principles with their conventional teaching methods.

### *5.3 In What Context Is Entrepreneurship Education Taking Place?*

The study includes questions in the questionnaire survey to gain deep insight into both academic and business strategies adopted, structures and norms put in place to create the right environment or context for the teaching and learning of entrepreneurship. The study sought to find out whether entrepreneurship education takes place in both academic and business environment, and also takes into consideration the unique socio-cultural environment of Ghana. The results reveal that academic structures and strategies are mainly relied upon in inculcating entrepreneurial culture and behavior into students. Entrepreneurship education for polytechnic students in Ghana is mainly situated in the academic context. However, the entrepreneurship tutors stated during the interviews that they occasionally developed programs such as organization of seminars, symposia and fairs in which renowned local entrepreneurs from the communities are invited to showcase their skills and share practical knowledge with students to stimulate entrepreneurial interest in them. According to the tutors interviewed, gradually, programs are being drawn and developed in conjunction with practicing indigenous entrepreneurship as component of entrepreneurship education to facilitate the adoption of entrepreneurial thinking and behavior based the local ecosystem. The tutors and students interviewed were of the view that if the indigenous business environment is closely linked and infused into academic work, it will make it easier for students of the polytechnics to apply their class room knowledge to realities of the business world after graduation. They will be able to conceive business ideas and set up business ventures which will be beneficial to their communities. This will reduce unemployment menace that has plagued the nation and consequently lead to decline in poverty.

### *5.4 Towards a More Innovative Approach*

The study uncovered critical information on what is taught, how it is taught and in what context entrepreneurship education is taking place in Ghanaian polytechnics. Primarily, it is found that the basic and relevant concepts of entrepreneurship course are taught in these polytechnics. As observed by renowned scholars in entrepreneurship (Buame, 2010; Wilson, 2008; Hisrich, 2004), essential component of entrepreneurship education must include the acquisition and development of knowledge and skills in three core areas namely: business management, personal entrepreneurial skills development, and technical skills development. To a large extent, the evaluation of the content of the entrepreneurship syllabus in the polytechnics and the data gathered from the field revealed that knowledge in most of these areas is imparted to students mostly foreign and theoretical in nature, though. The findings also indicated that the content of the syllabus had only sparse component of knowledge of the Ghanaian ecosystem which encompassed the unique local economic and socio-cultural element in the students' indigenous environment.

It is therefore recommended that more depth and rigor is needed to ensure that entrepreneurship courses, materials and research are of high quality and reflective of the Ghanaian local ecosystem. Research and curriculum development are of particular importance in helping to ensure entrepreneurship's rightful place among the academic disciplines. Entrepreneurship curriculum content in higher educational institutions must be rapidly overhauled and geared towards developing problem-solving skills, which are greatly needed in today's knowledge-based society. Entrepreneurship and innovation must be deeply embedded into the curriculum to ingrain a new entrepreneurial spirit and mindset among students.

To ensure sustainability and the capacity to meet the demands of Ghanaian students, there is the need to infuse their academic programmes with indigenous enterprising values and structures. Materials used in the entrepreneurship courses in Ghana should be generated locally, as faculty teach with a mix of lectures as well as formats that do not use conventional course materials. This will enable the students to effectively acquire the necessary knowledge and skills to identify business opportunities, mobilize the resources, create and manage business ventures in their local communities. After the completion of their polytechnic education, most students will continue to live in these communities. There is therefore the great need for these students to develop practical skills in regards to how to apply the entrepreneurial knowledge acquired to create other enterprises in



their own communities.

Pedagogically, the conventional teaching method of lecturing is mostly used in the polytechnics. In the teaching and learning of an academic course which is of very practical nature such as entrepreneurship, the kind of knowledge imparted to the students and the method used for doing so are very crucial in the transmission of knowledge. The continual usage of the traditional passive and incremental teaching approach which has over time been found flawed will not be helpful to the students studying entrepreneurship.

It is suggested that creative and innovative well balanced, well mixed multi-pedagogy can effectively facilitate the teaching and learning of entrepreneurship. Students could greatly benefit from a sprinkling of well-chosen pedagogy including plenary lectures, field work, project work presentations by students, business plan writing competition, syndicate work and active class discussions. In addition, visits and interviews with prominent and successful entrepreneurs including polytechnic alumni that have set up their own enterprises, organization of fairs which can showcase indigenous talent, skills and products should form critical part of entrepreneurship education pedagogy. Essentially, team teaching and multiple presenters within one subject knowledgeable in both indigenous and non-indigenous entrepreneurial principle and practicalities must be employed to facilitate teaching and learning of entrepreneurship. This process will empower the students to learn to observe and understand local and international economic and socio-cultural reality and to acquire entrepreneurial skills and knowledge which will be beneficial to them.

Greater emphasis needs to be placed on experiential and action learning. There are numerous pedagogies that can be utilized, including case studies, team projects, and activities with entrepreneurs. Using active learning methods is complex but more beneficial than traditional teaching methods. It requires engaging students more deeply in the learning process. Entrepreneurship educators therefore must be able to create an open environment of trust, in which students develop the necessary confidence to take risks.

## 6. Conclusion and Future Research Directions

In conclusion, the content of entrepreneurship education and the pedagogy as used in the Ghanaian polytechnics and other higher educational institutions need to be revised periodically, to include more of practical skills development in students and be more adaptive to their local ecosystem. The adoption of the appropriate pedagogy throughout the curriculum will help these higher institutions of learning to produce competent graduates who can use their knowledge and skills to create and manage enterprises in their own local communities, leading to personal growth, greater development, economic growth and social renewal of their nations. Innovative approaches to the learning and teaching of entrepreneurship focusing on the local market needs and context and involvement of entrepreneurs and local companies in entrepreneurship courses and activities will be more beneficial to students and their nations. Future research in the area will help bring insight and enhance understanding of the impact of the entrepreneurial education on the local communities and the number of alumni start-ups.

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