

Effectiveness of Entrepreneurship Development Programs in Ghanaian Polytechnics

Paul Harrison Adjimah

Ho Polytechnic, Ghana. Tel: 00233 24 8772148.

Email: jonadji2@yahoo.com

Akli Lawrence Perry

Ho Polytechnic, Ghana. Tel: 00233244772444.

Email: lawrenceakli@yahoo.com

ABSTRACT: This paper examines the effectiveness of entrepreneurship development programs (EDP) of Ghanaian Polytechnics in achieving some objectives. Using a case study methodology the research tracked the entrepreneurship intentions and entrepreneurial tendencies of some Ho Polytechnic students at different stages of their studies over three years. The analysis revealed a very high increase in interest in business proprietorship after the EDP but showed quite a weak link between the programs and most of the entrepreneurial tendencies. The study also noted that the proportion of students who intend to move from school directly into business, though rising after the programs, remained very low. The study finally concluded that the gap between the high level of interest and the willingness to move directly from school into business is a strong case for more policy efforts to initiate programs and projects which can trigger graduates to undertake entrepreneurial activities.

Keywords: effectiveness; entrepreneurship intentions; tendencies; entrepreneurship development programs

JEL Classifications: I 13; L27

1. Introduction

The increasing recognition of the role of entrepreneurship in economic development had led to governments around the world charging academic institutions to push cultures that would promote enterprise and new business creation among graduates (Kirby, 2002). On the one hand it can now be said that educational systems have accepted and taken the challenge of developing entrepreneurs in varying degrees (Potter, 2008). Almost all the tertiary institutions in Ghana now offer a compulsory entrepreneurship or small enterprise management course at undergraduate levels (Adjimah, 2011). On the other hand there are still considerable debates within the academic community over whether universities could teach individuals to become enterprising businessmen. From the onset some have argued that this is an undertaking that is beyond the capabilities of the universities in time and scope (Johannisson, 1991:79). Yet others believe that entrepreneurial skills could be acquired through learning and academic institutions could develop entrepreneurs but a radical change in intellectual and educational priorities involving the restructuring of programs and syllabus is needed (Chia, 1996: 410-411; Colette et al., 2005).

Compared to developed countries entrepreneurship education is scarce in most developing countries (Dubbin and Iacobucci, 2004). In sub-Saharan Africa for example, the colonial educational structures which continue to exist limit policy efforts towards creating higher institutions for technical and vocational education which are the foundation for small businesses. In Ghana, there are indeed a number of technical and vocational institutions, albeit, not the preferred choice for most guardians and wards. Trade apprenticeship is common among basic school dropouts and those who cannot afford secondary education. However, the apprenticeship training tends to be limited to technical skills development. Entrepreneurship academies are nonexistent and most of the Ghanaian Universities are

focused on the easier options of theoretical programs, liberal arts and business management. Arguably, Ghanaian Polytechnics are therefore the most practically oriented higher institutions of learning that can combine technical and business management skills and provide entrepreneurial training.

The objective of this paper is to evaluate the effectiveness of the Entrepreneurship Development Program (EDP) offered in Ghanaian Polytechnics for stimulating entrepreneurial interest and developing entrepreneurs. Given the course objectives of the entrepreneurship development programs, the expected outcomes that can be deduced and hence seen as measure of success are: graduates' entrepreneurship intentions, improvement in entrepreneurial tendencies of students, and the knowledge and skills acquired by the graduates. While knowledge and skills are assessed through examination, entrepreneurial intentions and tendencies are not usually evaluated. In order to fill this gap, our research therefore tried to track the entrepreneurial interest and tendencies of students in Ho Polytechnic over a period of three years.

2. Literature Review

2.1 Entrepreneurship Development Programs

"Entrepreneurship education" and "small business education" are two typical terms used in entrepreneurship literature to describe entrepreneurship training programs. Entrepreneurship education, which is more associated with North America literature, refers either to training programs devoted to helping future entrepreneurs start up their own business or educational programs preparing people for a career in entrepreneurship (Vesper and Ronstadt cited by Bécharde and Toulouse, 1998). "Small business education" more, a European concept is often used to denote entrepreneurship education, education for small business ownership and self employment, continuing small business education, and Small business awareness education. A more agreeable term "entrepreneurship development program" (EDP)—meaning any set of structured courses designed to inform, train, and educate those interested in participating in socio economic development through projects aimed at business awareness and creation or at the teacher training—has been adopted by three international organizations, namely, the International Network of Management Development (INTERMAN), the United Nations Development Program (UNAP), and the International Labour Organization (ILO) in Geneva.

The General Enterprising Tendency Test (GETT) of Durham University assumes that enterprise is a wider concept that includes more than business owner-managers and entrepreneurs. According to Caird (2012) an enterprising person may be an entrepreneur, an intrapreneur working within an organization, or voluntrapreneur who sets up and leads voluntary projects in the community. He therefore defined an enterprising tendency as the tendency to start up and manage projects.

The theoretical basis for emphasis on EDP in academic institutions is the entrepreneurial decision process model. The model postulates that people make decisions to become entrepreneurs by leaving a present lifestyle. It indicates that one of the push and pulling factors that actively influence entrepreneurship decision is when one's situation is disrupted, as for example, dropping out of, or leaving school without employment. The model further explained that there are aspects of decisions to leave a present lifestyle or disruption situations that make people consider it desirable to form a new venture and that these perceptions relate to subcultures developed from school, teachers, peers or families. In addition to the desirability factors the entrepreneurial decision process model also recognized that possibility of new venture formation decisions depend largely on government supports, availability of finance and background of the individuals (Hirsch and Peters, 2002, p.9)

The positive relationship between entrepreneurship education and business creation has been well acknowledged in international literature (Lüthje and Frank, 2002; Charney and Libecap, 2004). According to scholars and researchers, there is a good possibility to increase entrepreneurship ability through education (Gorman et al., 1997). The European Commission (2004) regards education as an important means to create a more entrepreneurial mindset among young people.

2.2 Entrepreneurial Activities and Economic Development

One of the major reasons for increased interest in entrepreneurship training programs is the increasing recognition of the role of entrepreneurship in economic development. According to OECD (2010) promotion of entrepreneurial awareness and good attitudes towards entrepreneurship are high on the policy agenda of many countries. Correspondingly too entrepreneurial intention and expectation among citizens of countries around the world is on the increase. Bosma, and Schutjens (2011) in their

analysis of GEM (Global Entrepreneurship Monitor) in Adult Population Surveys revealed that entrepreneurship is overwhelmingly accepted as a good career choice. Increasing emphasis is now being placed on entrepreneurship for promoting economic growth (Bygrave and Zacharakis, 2007) and globally, there is a growing recognition of entrepreneurship as a driving force to economic development and job creation. Garavan and O’Cinneide (1994) advanced the explanation of employment link and asserted that high unemployment rates, fluctuations in international trade cycles, and economic recession have contributed to the revival of interest in entrepreneurship as a possible solution for economic prosperity.

A number of authors have indicated a two-way link between entrepreneurship and economic development (Wennekers and Thurik, 1999; Acs, 2006; Audretsch 2007). There is growing evidence of complexity of causal relationship between entrepreneurship, economic growth and poverty reduction (Bosma and Levie, 2010). According to Wennekers et al.(2005), the contribution of entrepreneurs to an economy varies according to its phase of economic development. Bosma, Wennekers and Amoros (2011) in GEM report further advanced this view and based it on the following premises.

First, that an economy’s prosperity is highly dependent on a dynamic entrepreneurship sector; and that this is true across all stages of development. Yet the nature of this activity can vary in character and impact to the extent that if these opportunities for entrepreneurship and innovation are to be captured, such economies need to instill opportunity-based motives and entrepreneurial incentives.

Second that an economy’s entrepreneurial capacity is based on individuals with the ability and motivation to start businesses, and may be strengthened by positive societal perceptions about entrepreneurship. Entrepreneurship benefits from participation by all groups in society, including women, a range of age groups, education levels and disadvantaged minorities.

Finally, the report emphasized that high-growth entrepreneurship is a key contributor to new employment in an economy, and national competitiveness depends on innovative and cross-border entrepreneurial ventures.

The GEM(Global Entrepreneurship Monitor) model is a more recent model that attempts to explain the complex relationship between entrepreneurship and economic growth. According to Reynolds et al., (2005) the GEM model assumes a positive (if indirect) association between *Entrepreneurial Framework Conditions* (EFCs)—entrepreneurial capacities and opportunities needed in a country to enable new business activity—and entrepreneurial activities. Some other studies suggested that high-growth expectation entrepreneurial activity may respond to EFCs differently from early-stage (Autio, 2007).

Levie and Autio (2008) on the other hand provided a theory-grounded examination of GEM’s EFC and tested the effect of education and training for entrepreneurship on the allocation of effort into new business activity. They found that for high-income countries, opportunity perception mediates fully the relationship between the level of post-secondary entrepreneurship education and training in a country and its rate of new business activity.

The link between entrepreneurship and economic development cannot be overemphasized. The direct contribution of entrepreneurship to economic development may range from contributing to: increasing Gross Domestic Product(GDP), increasing national income and formation and expansion of new industries; inducement of backward and forward linkages which can stimulate the process of economic development in countries; promotion of a country’s export trade; innovation in terms of high innovative spirit and increased research and development(R&D) -R & D at small entrepreneurial firms is more efficient, productive and robust than at larger firms; change in businesses and societal structure; stimulating investment interest in terms of encouraging effective resources mobilization of capital and skill which might otherwise remain unutilized and idle; bridging the gap between science and market place; and job creation (Timmon,1990; Hisrich et al., 2007; Adjimah, 2011; Opoku, 2004)

2.3 Entrepreneurial Tendencies

A number of capabilities contributing to the success of an entrepreneur have been identified(Lorrain and Dussault, 1988). Generally, the skills entrepreneurs should possess can be classified into technical skills, business management skills and personal entrepreneurial traits or tendencies. Technical skills are sets of skills that entrepreneurs develop to enable them to be able to understand, communicate with, and lead the technical staff of their organization. Business management skills represent knowledge to fulfill business activities or tasks. On the one hand, skills

and knowledge can be learned or acquired through practical fulfillment of these activities. They also can be bought. Tendencies, on the other hand, are the competencies or characteristics such as opportunity seeking, initiative taking, high need for achievement, risk taking, self discipline and so on, the development of which makes entry into and management of businesses easy and smooth (Adjimah, 2011). Characteristics are more or less a fact and neither easy to change nor learn in a short period of time; but skills are easier to learn and change (Nyström, 1979).

Discussions on Entrepreneurship development mainly focus on various aspects of business and not so much about tendency towards entrepreneurial traits or characteristics (Béchar and Toulouse, 1995). Béchar and Toulouse in their research and review of EDPs observed that little is provided on intuition (know when); social skills (know whom); technical skills (know how); or attitudes, values, and motives (know why) which are required for success. Hemantkumar et al., (2010) made a strong point that enterprising tendency is one of the most important parts of entrepreneurship. Driessen (2005) also argued that someone with a great deal of knowledge about a certain task and the capabilities to perform is not likely to use his knowledge and capabilities if he lacks the motivation for it. Charntimath (2006) laid emphasis on creativity, innovation, dynamism, leadership, team building, achievement motivation, problem solving that successful entrepreneurs must have.

Durham University designed the General Enterprising Tendency Test (GET2) to bring together and measure a number of personal 'tendencies' commonly associated with the enterprising person. These include: need for achievement; need for autonomy; creative tendency; risk taking; drive and determination (Caird, 2012).

Need for Achievement: The need for achievement score of the GETT measures characteristics such as: forward looking, self-sufficient, optimistic rather than pessimistic, task oriented, result oriented, restless and energetic, self-confident, persistent and determined and dedication to completing a task. According to Johnson (1990) achievement motivation can be singled out as the most prevalent theory of entrepreneurship. The notion of need for achievement first came from Henry Murray in 1938. David McClelland and his associates later studied achievement motivation extensively and were of the view that needs are learned and therefore cannot be biologically, but rather culturally determined (Cherrington, 1994). There are however varied conclusions on research attempts to provide universal personality traits that fit all entrepreneurs. In some studies measures of need for achievement strongly correlate with entrepreneurial behaviors, in other studies there appear to be no such correlations (Hemantkumar et al., 2010; Frank, Lueger and Korunka, 2007).

Need for Autonomy / Independence: characteristics usually assessed under the need for Autonomy / Independence are: likes doing unconventional things, prefers working alone, needs to do 'own thing', needs to express what he / she thinks, dislikes taking orders, likes to make up own mind, does not bow to group pressure, stubborn and determined. According to Bibby (2010) one element that separates entrepreneurs from all others is their extra measure of "independent spirit." He pointed out that successful entrepreneurs display natural executive talents in conjunction with their powerful need for independence. He also added that the need for independence must be accompanied by the ability to plan as well as execute the plan and further argued that although all entrepreneurs cannot be forced into one mold recognizing this ownership personality can be critical to success.

Creative Tendency Score: The creative tendency score *measures* things like imaginativeness and innovativeness, tendency to day dream, versatility and curiosity, intuitiveness and guessing well and enjoying new challenges, novelty and change. Many people align with the 'Schumpeterian' view that entrepreneurs spur innovation and entrepreneurship is all about innovation and speeding up structural changes (Schumpeter, 1942). Zwillling (2012) emphasized that even beyond the initial idea stage, real creative thinking is a more challenge at implementation and competitive business marketing stages. Zwillling argued that there is a risk of not adding the creative side as a large portion of starting and running a business requires analytical and logical thinking, education and training in order to logically associate related concepts.

Moderate / Calculated Risk Taking: The specific attributes evaluated by the moderate / calculated risk taking part of the GET Test include: acting on incomplete information, accurately assessing own capabilities, being neither over nor under-ambitious, evaluating likely benefits against likely costs, setting challenging but attainable goals.

Drive and Determination: The set of characteristics assessed under this are: taking advantage of opportunities, discounting fate, making own luck, being self confident, believing in controlling own destiny, equating results with effort, showing considerable determination and so on. According to McMullen and Shepherd (2006) fear of failure when it comes to starting a business (and the consequences of failure) could also deter an individual from exploiting perceived entrepreneurial opportunities.

In spite of the significant increased interest of academic institutions in entrepreneurship training, there are still considerable doubts about whether they can turn out entrepreneurs. Authors such as Shepherd and Douglas (1996) held the view that entrepreneurial process involves both art and science and the science part could be taught using conventional pedagogical approaches. They pointed out the art part—which relates to generative, creative and innovative attributes—does not seem to be teachable in the same way. An elaborate research on effectiveness of entrepreneurship training has been provided by Colette et al. (2005). They affirmed that at least some aspects of entrepreneurship can successfully be taught in entrepreneurship academies and colleges but established that there are some difficulties associated with the design of programs, as well as their objectives, content and delivery methods.

3. Methodology and Research Design

There is no agreement on the appropriate method for evaluating the effectiveness of Entrepreneurship Development Programs (EDP) (Wyckham, 1989; McMullan et al., 2001; Westhead et al., 2001: 167). Measures such as businesses started or saved, revenue generation and growth, job creation and retention, financing obtained and profitability of new businesses and participants' view have been suggested. Storey (2000) and McMullan et al. (2001) however recommended relating program outcomes directly to its objectives. In Ghanaian Polytechnics entrepreneurship is taught as a general course and offered by all the students either from the second or the third year and is taken for two semesters.

As recommended by Storey (2000) and McMullan et al., (2001) course objectives are key in assessing the success of entrepreneurial training programs. The general objectives of many EDP at tertiary levels in Ghana are to: create entrepreneurial awareness and motivation among students; equip students with the knowledge and skills for business opportunity identification and evaluation, resource gathering to take advantage of opportunities and running small businesses.

Given the course objectives, the authors set out to design a study that would efficiently as possible but also scrupulously investigate the effectiveness of Entrepreneurship Development courses of Ghanaian Polytechnics in stimulating entrepreneurial interest and developing entrepreneurs with Ho Polytechnic as the study area. The outcomes that are of interest here are: one, entrepreneurship intentions of students, measured quantitatively as the proportions that intend to set up a business just after the Higher National Diploma (HND) program; two, changes in entrepreneurial tendencies measured by the mean GETT score of participants and the proportion of students scoring above the average GETT score.

The research was a longitudinal study conducted over a period of 3 years. In assessing the interest of budding entrepreneurs care was taken not to introduce bias and exaggerate interests. The research therefore gave a simple task to various categories of students for 3 years. The categories of students are as shown in Table 1.

Table 1. Category of Students

Groups	Descriptions
A	First years starting various HND programs
B	Second years not offering the Entrepreneurship Development Course (ET) yet;
C	Second years at the start of the ET
D	Second years at the end of the ET
E	Third years at the start of the ET
F	Third years at the end of the ET and HND program
G	Those who offered ET in second years at the end of HND program.

Students in each category, at various stages of their studies, were given a simple task to briefly state and describe their career objectives, and what they would like to start doing after school and the results were collected and analyzed every year. About 1000 students of all categories took part in the interest in entrepreneurship task yearly. However only 100 scripts from each category were selected at random and analyzed for each year. This is to enable us to identify the trend of changes in entrepreneurship intentions of the students.

To evaluate the enterprising tendency of participants, we used the General Enterprising Tendency Test (GETT) to assess 50 selected students from categories C, D, E, F and G defined above in Table 1 towards particular entrepreneurial characteristics.

4. Results and Discussions

The result on the level of interests in entrepreneurship as shown by the proportion of various category of students who aspire to be businessmen or intend to move from school into business are presented in Table 2.

Table 2. Entrepreneurship Intentions of HND Students

Category of HND Students Group	2009/2010		2010/2011		2011/2012	
	Aspire to Own Business	Move From School into Business	Aspire to Own Business	Move From School into Business	Aspire to Own Business	Move From School into Business
A: 1 st Years Starting HND	7	1	10	1	15	2
B: 2 nd Years Not Offering ET	12	1	20	1	18	2
C: 2 nd Years, Offering ET	21	2	37	3	39	4
D: 3 rd Years, Offering ET	22	2	36	4	37	4
E: 2 nd Years, Finishing ET	43	6	47	7	57	8
F: 3 rd Years, Finishing ET	41	7	51	7	55	8
G: ET in 2 nd Year, Finishing HND	39	9	45	10	55	10

Source: Field Survey, 2009--2012

The information gathered on Group A—first years starting various HND programs – provided the base line standard against which the progress of students in terms of interest and development of entrepreneurship tendencies was measured as they go through the HND programs and offer entrepreneurship development (ET) courses. In terms of proportion of students intending to choose entrepreneurship as career or move from school into business, interest of new students are very low but rising steadily each year. Over the years 7 to 15 out of 100 aspire to own business and only 1% to 2 % intends to move from school into business.

Group B: Second year students not offering the ET course serve as control group to Group C- students offering the entrepreneurship course in the second year. Clearly there appears to be higher interest in intentions to become businessmen among students offering the entrepreneurship course than group B and Group A. In addition the information gathered on Group B gave us an idea on possibilities of extracurricular activities and other programs in the school contributing to growing interest of entrepreneurship. In 2009, Students in Free Enterprise (SIFE)-Ho Polytechnic won the National Tertiary Entrepreneurship Competition two consecutive times and represented Ghana in Germany. This apparently might have contributed to increased interest of even those not offering entrepreneurship to rise to about 20% in 2009/10.

The observation on Group D—students offering the ET course in their third year—is not different from that of group C. The proportion intending to be businessmen sometime after school increased each year as they offered the entrepreneurship course. The numbers of students in this category who intend to move from school into business, again, remain relatively small.

The information gathered on Groups E, F and G enabled us to assess the changes in intentions of students as a result of the ET course. As evident from Table 2, the course seems to be massively contributing to growing interest of students in business ownership and the trend continued to increase year after year. The research showed over the three -year period that at the end of the course and the HND program 41% to 57% of students declared they would like to be businessmen compared with about 7% to 15% at the start of the HND program. Also of interest about these same groups, is the low proportion of students wishing to move directly from school into business. At the end of the entrepreneurship development course only about 6% to 10% declared they intend to move from school into business, justifying the debate of whether academic institutions can effectively turn out entrepreneurs. This is however an improvement over 1% to 2% at the start of the HND program.

Particularly surprising, though, is observation on group G: 9% to 10% of students in this category declared they intend to move from school into business compared with 7% to 8% from Group F. Both groups offered the ET course for 2 semesters during the period of the HND program. While Group G offered the ET course in the second year, Group F offered it in the third year. However, both groups were assessed at the end of the HND program.

The longitudinal study of the entrepreneurial tendency of students was also conducted over a period of 3 years. The results are presented year by year in Tables 3, 4 and 5 below. The GETT assessed characteristics such as Need for Achievement; Drive and Determination; Creative Tendency; Moderate / Calculated Risk-Taking; and Need for Autonomy /Independence as shown in the first columns of Tables 3, 4 and 5. The Range of GETT Score column shows the maximum and average levels that can be scored on an attribute by those who take the test internationally. The entrepreneurial tendency of the various categories of students were assessed by analyzing the mean score. The percentage of students in each category who scored above the international average GETT score are indicated in bracket.

Table 3. Entrepreneurial Tendency of Various Categories of Students (2009/2010)

Characteristics	Range of GETT Score	Mean Score and Proportion of students scoring Above Average GETT Score (%)				
		Students offering ET in the 2 nd Year			Students offering ET in the 3 rd Year	
		Start of Course(C)	End of ET Course(E)	End of HND Program(G)	Start of Course(D)	End of Course & HND(F)
Need for Achievement	Max:12 Ave.: 9	8.1(30%)	10.1(25%)	10(35)	7.8 (20%)	10.2(30%)
Need for autonomy /independence	Max: 6 Ave: 4	2.8(0%)	3.0(5%)	3.4 (10%)	2.9(0%)	3.1(5%)
Creative tendency	Max: 12 Ave: 8	4 (0%)	4.3 (0%)	6.8(10%)	4.1(0%)	4.4(0)
Moderate / calculated risktaking	Max:12 Ave: 8	8(30%)	8(30%)	8.3(32%)	8.1(32%)	8.0(30%)
Drive and determination	Max:12 Ave:8	3.3(0%)	5.3(10%)	6(15%)	3.4(0%)	5.6 (10%)

Source: Field Survey, 2009--2012

Table 4. Entrepreneurial Tendency of Various Categories of Students (2010/2011)

Characteristics	Range of GETT Score	Mean Score and Proportion of students scoring Above Average GET T Score (%)				
		Students offering ET Course in the 2 nd Year			Students offering ET in the 3 rd Year	
		Start of Course(C)	End of Course(E)	End of HND(G)	Start of Course(D)	End of Course & HND(F)
Need for Achievement	Max:12 Ave.: 9	8.0(20%)	10.(30%)	10(30)	7.8 (20%)	10.1(32%)
Need for autonomy / independence	Max: 6 Ave: 4	3(0%)	3.1(5%)	3.1(15%)	3 (5%)	3.1(5%)
Creative tendency	Max:12 Ave: 8	5 (0%)	5.3 (5%)	7.1(15%)	4.9(5%)	5.2(5%)
Moderate /calculated risktaking	Max:12 Ave: 8	8(30%)	8(30%)	8.5(32%)	8.3(32%)	8.1(32%)
Drive and determination	Max:12 Ave:8	3.2 (0%)	5.4(12%)	6.5(15%)	3.7 (0%)	5.8(16%)

Source: Field Survey, 2009—2012

Table 5. Entrepreneurial Tendency of Various Categories of Students (2011/2012)

Characteristics	Range of GETT Score	Mean Score and Proportion of students scoring Above Average GET T Score (%)				
		Students offering ET in the 2 nd Year			Students offering ET in the 3 rd Year	
		Start of Course(C)	End of Course(E)	End of HND(G)	Start of Course(D)	End of ET Course & HND(F)
Need for Achievement	Max:12 Ave.: 9	7.8(20%)	9.4(20%)	10(25)	7.9(10%)	9.5 (18%)
Need for autonomy / independence	Max: 6 Ave: 4	3.1(5%)	3.4(10%)	3.8(20%)	3.1(5%)	3.5(15%)
Creative tendency	Max: 12 Ave: 8	6 (0%)	6.3 (10%)	7.8(15%)	6(5%)	6.4(10%)
Moderate /calculated risktaking	Max:12 Ave: 8	8(30%)	7.8(30%)	8(35%)	8.1(30%)	8.0(38%)
Drive and determination	Max:12 Ave:8	3.3(0%)	5.5(10%)	6.5(18%)	4(0%)	6.0(16%)

Source: Field Survey, 2009--2012

Need For Achievement: From Table 3—5 it can be observed that the mean score for Need For Achievement at the start of the entrepreneurship development course (ET) in all the three years was (7.8 to 8.1) lower than the average GETT score (9). After the entrepreneurship development course the figures increased in the range of 9.4 to 10.2 and in each case exceeded the average GETT score in all the three years. The proportion of students scoring more than the Average GETT score also increased over the period. This is a clear indication that the Entrepreneurship development program may be contributing to increasing need for achievement among students.

Need for Autonomy/Independence: The study’s measure of Need for Autonomy/Independence did not show any significant improvement as students’ progressed through their course. However, a modest increase was registered along the three-year period, 2.8 to 3.1 at the start of the course and 3 to 3.6 after the course which falls slightly below the GETT average of 4. The need for autonomy is, however, a key ownership personality and crucial for success. According to Bibby (2010) one element that separates entrepreneurs from all others is their extra measure of “independent spirit”.

Creative Tendency: On the measure of Creative Tendency the score of the various categories of students range from 4 to 6 at the start of the course and 4.2 to 6.3 after the course. Even though there appeared to be some improvement both in terms of mean score and proportion of students scoring above average GETT, the entrepreneurship course did not seem to have any considerable effect. The mean score for all the three years, although showing some increments, remain very low compared with the average GETT score. Authors such as Charntimath(2006) and Zwillling (2012) have emphasized that creativity is an important characteristic for an entrepreneur.

Moderate / Calculated Risk Taking: The scores in respect of Moderate / Calculated Risk Taking tendencies of students ranged between 7.8 to 8.3 which was around the international average of 8. It is evident from the result that the entrepreneurship development course did not seem to have any considerable impact on the students as both the mean score and the proportion of students scoring above the international average remained largely the same after the course and actually also over the years. This is however not surprising as the pedagogy of teaching and the duration of the course (two semesters) may not be enough to change some of the attributes involved.

The reasonably high level of Moderate / Calculated Risk Taking score meant that all things being equal the Polytechnic graduates could be capable of making decisions and undertake entrepreneurial activities just as others elsewhere.

Drive and Determination: From the result, the Drive and Determination tendencies of students were exceedingly low compared with the international average—the mean score of various categories of students ranged from 3.2 to 6.5 compared with the international average of 8. The mean score of students studied however showed signs of improvement after the entrepreneurship development course. At the start of course the mean scores range from 3.2 to 3.7 but after the course the score moved to 5.3 to 6 and the proportion of students scoring above the international average moved from 0 to 10% to 16% after course

5. Conclusion

As stated earlier the purpose of the research was to assess the effectiveness of the entrepreneurship development course of the Polytechnics using some of the course objectives. This involved tracking before and after the course, the entrepreneurship intentions and changes in entrepreneurial tendencies of students from 2009 to 2012. The analysis of the results provided some evidence that the EDP of the Polytechnics may be contributing to increase interest of graduates in business proprietorship and there is also a general rising level of interest over the years. However, the proportion of students who intend to move from school into business—thus actually making entrepreneurship a career option, though rising after the course—remained very low. The high level of interest may imply high desirability for entrepreneurship and business proprietorship. The low proportion of people wishing to move directly from school into business indicates weak perceived possibility factors (see entrepreneurial decision making process model, Hisrich and Peters, 2008).

The evidence on the effect of the course on entrepreneurial tendencies is mixed. On the one hand, the analysis revealed quite a weak nexus between the entrepreneurship course and the Need for Autonomy/Independence, Creative Tendency, and Moderate / Calculated Risk Taking characteristics. On the other hand, there appeared to be quite a strong link between the Need for Achievement, and Drive and Determination tendencies and the EDP of the Polytechnic.

The GETT results also enabled the researchers to compare the enterprise tendency of participants to the average international score. On the Need for Achievement, and Moderate / Calculated Risk Taking characteristics, participants compared favorably with international counterparts. On the other hand, the mean score on Creative Tendency, Need for Autonomy/Independence, and Drive and Determination characteristics were very low compared with international averages.

The apparent effectiveness of the EDP of Ho Polytechnic in increasing the graduates Need for Achievement tendency, which also conforms to increasing interest of students in business ownership, is not surprising. This is in line with earlier conclusions such as that of Johnson (1990) who singled out achievement motivation as the most prevalent theory of entrepreneurship; and McClelland theory which emphasized that the need for achievement is culturally determined and can be learnt. The entrepreneurship course in the Polytechnics is all about motivating students to go into business and create wealth.

Interest in entrepreneurship among students at the start and the end of both HND programs and the entrepreneurship course showed a continuous growth. This trajectory of growing interest in entrepreneurship conforms to the global trend of increasing interest in entrepreneurship in general. Given the strong link between increased entrepreneurial activities and economic development as expressed in the literature, the high and the growing interest of Polytechnic students in entrepreneurship, if the trend is the same nationally, is positive news for the Ghanaian economy.

The implication of the increasing interest and improvement in some entrepreneurial attributes of students for the wider economy may be limited though, as the real business and the number this could lead to is not measured. Instead, a proxy variable---proportion of students intending to set up business after school is rather measured. Nonetheless, education and training is a desirable factor as it makes budding entrepreneurs see setting up a business a desirable thing to do.

The weak link between the EDP and some of the entrepreneurial tendencies of participants should not be overemphasized as the GET test used in the research is not definitive. The test is only use as an educational aid for thinking about enterprise. According to Caird (2012) if a participant in the test is not happy with her/his test results, personal transformation is an open door and if one wants to be enterprising then she/he is half-way there. Indeed there are a number of extraordinarily successful entrepreneurs who lack some of these desirable characteristics but went ahead to create successful businesses.

The gap between the high level of interest and the willingness to move directly from school into business is a strong case for policy efforts to initiate programs and projects which can trigger graduates to undertake entrepreneurial activities. In respect of this, priority should be given to encouragement of entrepreneurial extracurricular activities in schools, graduate internship programs with small businesses, business incubation programs, provision of seed or business start up grants and so on. Finally, the evidence that students who start the course in the second year shown higher intentions of setting up a business at the end of the HND program than those who started in third year is a strong indication that introducing students to entrepreneurship development programs at early stages of their studies would be useful.

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