Redefining entrepreneurial learning paradigms in developing countries

A case study of Ghana

D. Owusu-Manu, S.K. Afrane, E. Badu, D.J. Edwards and M. Brown

Abstract: In a rapidly changing world of knowledge exchange, innovation and technological advancements, entrepreneurship continues to fuel economic growth in both developed and developing countries. In the developed world, an increased influx of graduate entrepreneurs sustains economic growth whilst, in contrast, developing countries continue to suffer from a dearth of entrepreneurial learning mechanisms. To remedy this situation in Ghana a collaborative and interdisciplinary venture, involving the Business School of the Kwame Nkrumah University of Science and Technology and an international panel of experts, has developed the Kite Vision Actualization Laboratory (KVAL). The raison d'être of the KVAL is to support and nurture talent, develop and implement business solutions and innovations, encourage the development of entrepreneurial undergraduate and postgraduate programmes and stimulate graduate business start-ups. The KVAL integrates four development stages of entrepreneurial learning: knowledge transfer and exchange; innovations and inventions; technology and enterprise development; and panel review, assessment and final approval protocols. The innovative KVAL framework mirrors demand-led transformation and self-actualization processes that represent a departure from traditional offerings in entrepreneurship education.

Keywords: entrepreneurship; graduate enterprise; business laboratory; vision actualization; Ghana

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The promotion of graduate entrepreneurship education is often heralded as a panacea for the social, economic and political challenges facing both developed and developing countries (McLarty, 2003; Pittaway and Cope, 2007; Matlay, 2008; Harrison and Leitch, 2010). In Ghana, a developing country, ‘entrepreneurship development’ has gained political prominence and the national government has proactively stimulated entrepreneurial activity to engender economic growth. A key, integral feature of the government’s strategy policy document, ‘Ghana – Vision 2020’, is a development strategy for securing strong regional and national economic growth that provides for a broad-based improvement of national living standards (Doni-Kwame, 2007).

To realize these ambitions, the Ghana Venture Capital Trust Fund (GVCTF) was created in 2006 (by Act of Parliament) to provide young entrepreneurs and small to medium-sized enterprises (SMEs) with equity capital, and nurture the development of Ghana’s fledgling venture capital industry (Financial Times, 2011). Initially seeded with approximately US$15 million capital, the GVCTF now incorporates over US$55 million of working capital mobilized through national and foreign alliances and encompasses a portfolio of diversified investments of US$17 million with over 39 companies. More recently, the GVCTF introduced a US$100 million ‘Angel Fund’ accompanied by the recent launching of Ghana Angel Investor Network. The Angel Fund objectives are to engender opportunities for early business start-ups, reduce the pressures associated with finance to which nascent entrepreneurs are subjected and spearhead economic transformation within the West Africa sub-region (ibid); and the Ghana Angel Investor Network seeks to attract investors for early-stage businesses. The economic imperative to harness the latent potential of Ghanaian graduates triggered the drafting of several crucial policy documents: the National Youth Policy of Ghana, the National Youth and Employment Programme and the Ghana National Entrepreneurship Programme. Within these documents the Government stated its objectives with regard to increasing and spreading the number of graduates propagating businesses in Ghana and accelerating job creation and embedding entrepreneurial development into the mainstream curricula of universities (NYPG, 2010). Cumulatively, these policy documents provide a blueprint for achieving the goal of the eventual eradication of poverty.

Despite these initiatives, the slow pace of infrastructure development is restricting the development of graduate entrepreneurship in Ghana (Dzisi, 2009). This lack of progress (Financial Times, 2011), coupled with a dearth of Higher Education Institutions (HEIs) capable of delivering entrepreneurship education, presents the country with a significant strategic challenge (Adda and Hinson, 2006; King and McGrath, 1999). Ghana’s educational system does not currently make provision for entrepreneurship teaching and learning (NYPG, 2010). It relies instead upon a declarative traditional knowledge transfer process, rather than enabling entrepreneurial free thinking and flair (Perkins, 1994; Kirby, 2002; Illeris, 2007). From a humanistic psychology perspective, successfully delivering educational solutions relies upon educators developing a holistic understanding of students (ibid). This translates into designing educational programmes and post-learning support mechanisms, and creating learning institutions that nurture the individual’s emotional health, personality and creativity (ibid; Jarvis, 2006).

This paper presents a framework for a ‘bottom-up’ approach to graduate entrepreneurial education and training and a methodology for incubating business ideas in HEIs in Ghana. Inspired by the philosophy of harnessing entrepreneurial knowledge, innovations and technology (Mukhtar et al, 1999) – and assisted by an international panel of experts, the Kite Vision Actualization Laboratory (KVAL) – Ghana is exemplified as a hybrid, industrial demand-led venture offering transformational and self-actualization entrepreneurial programmes. The KVAL initiative also relates closely to the global campaign to create entrepreneurial HEIs (see, for example, Kristensen, 1999; Meira-Soares and Amaral, 1999; Pawlowski, 2001). The research is contextualized within three generic strands of literature: entrepreneurial learning paradigms (Sullivan, 2000; Minniti and Bygrave, 2001; Gibb, 2002a; Warren, 2004; Lourenco and Jones, 2006; Rae, 2006); entrepreneurship education (Jack and Anderson, 1999; Leitch and Harrison, 1999; Drucker, 2001; McAdam and Marlow, 2008; Smith 2010); and business incubation (Hannon and Chaplin, 2003; Grey et al, 2011). There are four principal reasons for adopting this approach.

- It accommodates a narrative contextualization in which the innovative entrepreneurial learning paradigm unfolds.
- The philosophy, rationale and character of the KVAL are further revealed and explained.
- It demonstrates that pragmatic and applied entrepreneurial learning processes require the collective effort and positive integration of all stakeholders (including educators, students and policy-makers) before, during and after the programme (Adda and Hinson, 2006).
- The innovative and novel KVAL framework mirrors demand-led transformation and self-actualization.
processes, thus representing an innovative university incubation system.

**Methodological perspective**

Consistent with Gibb (2010), this research does not conform to any conventional quantitative (analytical) methodology per se. Instead, it follows an action learning approach, where the objective establishes basic concepts underpinning the development of an entrepreneurial learning programme. This work is thus best described as a reflective piece aimed at stimulating wider debate.

A critical review of the extant literature was carried out to elicit knowledge of pertinent entrepreneurship education scholarships in Ghana and abroad (ibid) and published national data from the National Youth Policy of Ghana, the National Youth and Employment Programme and the Ghana National Entrepreneurship Programme. From this body of knowledge the study’s theoretical framework and basis for systematically developing the KVAL framework was produced (Webster and Watson, 2002; Levy and Ellis, 2006). The review was intentionally directed at entrepreneurial learning paradigms, thus providing a critical discourse on entrepreneurship education and entrepreneurial learning scholarships.

The authors’ experiences as entrepreneurs and educators in the field of entrepreneurship inspired the paper’s concepts and contextualization and influenced the research process adopted. A review of the literature on entrepreneurship development and practices clearly indicated the presence of cultural, ethical and leadership dimensions which are sustained through a process of human action and interaction (see, for example, Dainty, 2007; Osei-Tutu et al, 2010). Cumulatively, these constructs resemble idealistic assumptions and hold a rich value-laden axiological position.

**Entrepreneurial learning paradigms**

In parallel with the global impetus to create entrepreneurial HEIs (Zaharia and Gibert, 2005; Gibb and Hannon, 2007; Gibb et al, 2009) there is increasing concern that the boundaries between entrepreneurship and enterprise education and work-related learning should be clarified (Dwerryhouse, 2001). However, research into enterprise education suffers from conceptual and contextual shortcomings which can prevent the integration of existing knowledge into entrepreneurship education (Matlay, 2005a; 2005b; 2008). Academic proponents of entrepreneurship studies contend that enterprise education is the process of providing individuals with the ability to recognize commercial opportunities and the insight, self-esteem, knowledge and skills to act on these opportunities (Davies, 2002; Charney and Libecap, 2003; Gibb, 2010). Although there is no universally accepted definition in the extant literature of what constitutes ‘entrepreneurship’, there is general agreement about what constitutes ‘enterprise education’ and ‘entrepreneurial learning’ (see Table 1). Within the extant literature, two dominant paradigms in enterprise education exist: the traditional approach and the constructivist approach (Krueger and Hamilton, 1996). In the traditional mode, teaching focuses on theory and knowledge is transmitted to learners (Watkins-Mathys and Foster, 2006; Krueger, 2007; 2009; Rae and Carswell, 2000). In contrast, the constructivist approach argues for situated learning where students must self-develop ways of organizing knowledge as they acquire it (building and changing their own mental models to represent knowledge) (Krueger, 2003; 2007; 2009). The constructivist approach thus focuses on practice of behaviours, developing skills and reinforcing attributes associated with being an enterprising person (Caird, 1992; Gottlieb and Ross, 1997; Rae, 2000).

### Table 1. Defining entrepreneurship education and entrepreneurial learning.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Gottlieb and Ross (1997)</td>
<td>Creativity and innovation applied to social, governmental and business arenas.</td>
</tr>
<tr>
<td>Bechard and Toulouse (1998)</td>
<td>A collection of formalized teachings that informs, trains, and educates anyone interested in business creation, or small business development. A process that combines innovation, creativity and the acquisition of enterprise competencies to create and sustain a new business venture.</td>
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<tr>
<td>Davies (2002)</td>
<td>The ability to handle uncertainty and respond positively to change; to create and implement new ideas and new ways of doing things; to make reasonable risk/reward assessments; and act upon them in one’s personal and working life.</td>
</tr>
<tr>
<td>Draycott and Rae (2010)</td>
<td>Enterprise education competencies should consist of knowledge (about the specific project or business), specific projects skills and general capability; that is, the ability or predisposition to set up and run projects.</td>
</tr>
<tr>
<td>Pittaway and Cope (2007)</td>
<td>Learning that occurs during the new venture creation process.</td>
</tr>
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</table>
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The topic of entrepreneurial learning has received a great deal of attention in academic research (Penn et al., 1998; Huovinen and Tihula, 2008). For instance, Pittaway and Cope (2007), cited by Pickernell et al. (2010), recognize that while some authors observe entrepreneurial activity extending beyond the new venture creation phase, others concentrate more on business conception. The experience acquired from social interactions, networks and relationships expound the ‘learn as you go concept’ of entrepreneurial learning as described by Gibb (1997). Gelderen et al. (2007) and Gibb (1997) explain that as entrepreneurs engage in various relationships they are exposed to different experiences from which learning can take place. In developing entrepreneurial graduates (individuals) the consensus of knowledge provides the guiding philosophy for articulation of the KVAL, which postulates that different entrepreneurs learn and operate in a multitude of ways depending on experience. This involves factors ranging from perceptions of risk through to the availability of resources at their disposal (Pickernell et al., 2010).

Contextual view of developing entrepreneurial undergraduates

According to Kharbanda (2011), the success of business, science and technology education lies in its contribution to the advancement of knowledge (Pittaway and Hannon, 2008; Rae et al., 2010). At the turn of the 21st century there appeared to be increasing national and international interest in trans-university entrepreneurship education (Gibb et al., 2009). Whilst many business faculties currently (2012) offer majors in entrepreneurship, in addition to majors in more traditional areas such as finance and accounting, non-business faculties also offer minors in entrepreneurship.

Convergent views in the literature on entrepreneurship suggest that entrepreneurial graduates are essential for future national economic success and that HEIs play a crucial role in developing a supportive environment for enterprise education (Rae et al., 2010). For instance, Hegarty and Jones (2008) examined how pedagogy inhibits students moving into graduate entrepreneurship. Greene and Saridakis (2007) focused on understanding the factors concerning UK graduate entrepreneurship and highlighted two reasons why these factors are important. First, few studies have been undertaken on the factors driving graduate entrepreneurship; and, second, a gap exists in the evidence regarding an understanding of the motivation of graduate entrepreneurs. Nabi et al. (2006) and Nabi and Holden (2008) identified three issues in particular with regard to graduate entrepreneurs: the individual personal characteristics that contributed to graduate entrepreneurship, the value of the graduate’s experience and the influence of entrepreneurship support programmes and related incubation initiatives (Greene and Saridakis, 2007). It is the latter of these three that is particularly appropriate with regard to this present study.

McLarty (2003) found low levels of graduate entrepreneurship being recorded, due to a lack of relevant business support services, non-availability of incubation programmes and lack of suitable information. This represents a considerable problem for young graduate entrepreneurs with minimal prior work experience: even if they have an entrepreneurial intention, a lack of access to networks will restrict business opportunities (Chrisman and McMullan, 2004).

Classical models of entrepreneurial education

With the global development of spin-off companies and university-based intellectual property rights, the rise of the entrepreneurial culture and activities is rapidly becoming part of the broader institutional culture (Liu, 2012). Accordingly, Pittaway and Hannon (2008) categorized entrepreneurial education into two main groupings or clusters: the single department-led model; and the campus-wide model. They identified three versions of the single department-led model: early stage, development stage and outreach stage.

The early stage model describes a situation where there are a few individuals who have either been given, or have taken, responsibility for developing entrepreneurial education within the HEI (Pittaway and Hannon, 2008). Characteristically, there is no coordinating function (for example, an organizational entity such as a centre, unit or team) other than informal contact between the individuals concerned. These individuals may be from different parts of the HEI and they may or may not have research interests in the subject. The success (or otherwise) of the model is largely dependent upon the efforts of a few individuals who champion its development (Pittaway and Cope, 2007; Pittaway and Hannon, 2008).

The second, development stage has been described as an organizational entity, whether an established team, an organizational unit, a centre or institute, which exists within the department or school (Wright et al., 2007; Siegel et al., 2007). Thus both curricular and extra-curricular activities are organized and managed by a dedicated team and these activities contribute significantly to the life of the department (Pittaway and Hannon, 2008).
The third, outreach stage of the single department-led model represents an established organizational entity within a school which is more outwardly facing in terms of its interaction with the wider university (ibid). This model may typically offer a range of activities and a curriculum open to students from across the university.

In contrast to the department-led model, the campus-wide model describes a situation where the HEI seeks to provide enterprise education across departments and disciplines (see, for example, Pittaway and Cope, 2007; Pittaway and Hannon, 2008). As with the single department-led model, three versions of the campus-wide model are identified in the literature: ‘campus-wide embedded’, where enterprise education is located in various departments across the HEI; ‘campus-wide centralized’, where enterprise education represents a more formalized entity; and ‘multiple department-led collaborative venture’ which aims to combine both of the former approaches into one.

Learning to practise: the role of business incubation

Infusion of practice-based learning activities, translation of learning into practice and promotion of business growth and innovation are important industrial policy aims in both developed and developing countries (Lalkaka, 2003; Grey et al, 2011). Business incubators are an important operational aspect of policy by means of which institutions support immature businesses to enable them, the businesses, to survive the critical start-up phase (Aerts et al, 2007). Business incubators have been described as business development processes applied to enhance and accelerate the pre-start, launch and early start and growth phases of a new venture opportunity (Lalkaka, 2003; Murray et al, 2012). The implementation of incubation policy and practice is primarily and largely focused on developing an effective supportive environment in which ‘...market-led ideas, and new ventures can be developed and are given the chance to fulfill their potential by providing access to opportunities, a wide range of development resources and tailored support services’ (Hannon, 2005). Most incubators therefore offer a network of business relationships to their tenants, consult tenants on business matters such as business plans and the further development of the company, help with fund-raising, provide general office equipment and offer marketing and financial advice (see, for example, Gstraunthaler, 2010).

Further to the emergence of the incubation concept and practice, business incubators have metamorphosed from the managed workspaces, enterprise agencies, industrial estates, science parks and business centres that were prevalent in the 1970s, into multi-purpose and specialized incubators by the end of the 1990s (Hannon, 2005). Multi-purpose incubators are designed to accommodate different enterprises from a variety of economic sectors; and, in contrast, specialized incubators in this context are those designed to address particular industrial needs and demands – for example, technology incubators, incubators without walls (that is, virtual incubators) and sector-specific incubators (see, for example, CSES, 2002). In explaining business incubation models, Thompson and Downing (2007) identified four types: science parks (where incubation is a core element and activities are research-led); property-based incubators (supported by public or private benefactor funding); corporate incubators (research-led but housed by individual organizations to encourage spin-outs); and venture capital driven incubators (supported by venture capital which promotes company formation and development).

Business incubators are now evolving into ‘hybrid ventures’ with the involvement of multiple stakeholders such as clients firms, government institutions, universities, venture capital firms and angel investors and large firms (CSES, 2002). For the purposes of this present research, business incubators are defined as hybrid ventures characterized by the presence of a full range of resources (including financial, human and material) whose stakeholders are engaged in mutual relationships to provide a wide range of services (including training and education and business, technical, managerial and financial support) and whose intent is to create an enabling environment that fosters creativity, innovation and entrepreneurship among graduate entrepreneurs. Many studies have dealt with examining the impact of incubator programmes, including assessing critical success factors and best practices (see, for example, Colombo and Dalmastro, 2002; Grey et al, 2011). These authors suggest that business incubators are modelled along varying dimensions taking into consideration technology transfer, growth and performance of the enterprise, innovation and regional integration (ibid). Business incubators are shaped by their framework conditions and are thus dependent upon the particular context in which the incubator is established.

The KVAL initiative and entrepreneurship development at KNUST

The Kwame Nkrumah University of Science and Technology (KNUST) in Ghana was established in 1952 and it is now structured into six colleges: the College of Agriculture and Natural Resources, the College of Architecture and Planning, the College of
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Engineering, the College of Health and Allied Sciences, the College of Science and the College of Arts and Social Sciences. The direction and progress of scientific endeavour at KNUST is based upon the university’s declared mission – to provide an environment for teaching, research and entrepreneurship training in science and technology for the industrial and socio-economic development of Ghana, Africa and other nations. However, despite this stated aspiration, progress in developing the necessary infrastructure to support the development of graduate entrepreneurship at KNUST and more generally in Ghana has been slow. Moreover, a once thriving consultancy unit housed within KNUST has become largely redundant and obsolete. The apparent lack of recognizable progress, in addition to factors such as a noticeably high rate of graduate unemployment, an increasing trend of graduate Ghanaians leaving Ghana, a dearth of capable institutions and an ambivalent policy to supporting graduate entrepreneurship programmes, all present significant challenges for stakeholders. Designing innovative educational (entrepreneurial) programmes, providing post-learning support mechanisms, enabling learning institutions and creating conducive learning environments that would develop the emotional health, personality and creativity of students are possible solutions to these problems. The development of the KVAL entrepreneurial learning methodology was one such response.

Integrated landscape of the KVAL

The ideal KVAL candidate is likely to be judged on the extent of their innovativeness and potential for growth (Alsos et al., 2011). Typically, participants (referred to here as ‘team-mates’) are selected by panel experts who classify the individuals into two groupings. Group A consists of new graduates, from any academic discipline, with ‘...brilliant ideas and innovative business concepts’ that could be developed. Group B comprises graduate entrepreneurs who want to enter the laboratory to explore new ideas and devise new solutions to their business problems. The KVAL actively seeks to help accelerate the growth of early-stage ideas and businesses into venture-ready companies by facilitating the birth and growth of start-up businesses and providing the necessary support resources. This approach reflects the nature of an entrepreneurial venture which needs to focus on action learning that combines all key aspects of entrepreneurial practice and leadership (Gibb et al., 2009).

The KVAL programme consists of four interdependent sub-laboratories (Figure 1) with time allowed for action and learning between each phase of the development process as follows: Research and knowledge transfer hub (idea development stage); Innovations and inventions hub (pre-incubation stage); Technology and enterprise development hub (incubation stage); and Panel review, assessment and final approval protocols (post-incubation stage). Although each phase is shown as rigid and fixed, for the purposes of diagrammatic representation and ease of communication, a degree of flow and flexibility inevitably exists between these phases to facilitate cross-pollination of ideas and initiatives and allow them to flourish unhindered by rigid administrative controls and processes.

Each phase was adapted from similar entrepreneurial learning methodologies – for instance the WICED model proposed by O’Carroll and Millne (2010) and CRER methodology of Moreira and Martins (2009) – which involves different actions and tasks. Each action has learning procedures and methodologies that facilitate the KVAL development process whilst supporting the potential entrepreneur throughout the KVAL experience. The duration of each phase of the KVAL entrepreneurial learning programme is approximately four to six weeks, up to a maximum of eight weeks. This allows team-mates to collect the necessary information to develop their business ideas and proceed to the programme’s next phase. Also, in each phase of the programme, dedicated and highly experienced KVAL advisers are assigned to supervise and work in partnership with the team-mates. The task for KVAL advisers is to develop KVAL team-mates, provide access to the KVAL experience, encourage best practice and monitor and support progress of team-mates in and outside the laboratory (O’Carroll and Millne, 2010).

The research and knowledge transfer (idea development stage) hub of the KVAL creates a research facility with the aim of generating primary research in order to strengthen and deepen the existing knowledge of would-be graduate entrepreneurs (O’Carroll and Millne, 2010). The overall objective of this phase of the KVAL programme is to develop the intellectual capacity of the team-mates and an understanding of how to absorb the concept of entrepreneurial learning. As such the principal activities include acquisition, sharing and exchange of knowledge (see, for example, Gibb et al., 2009). Consistent with the two dominant paradigms in enterprise education (namely the traditional and constructivist approach – see Krueger and Hamilton (1996) – learning activities in the research and knowledge transfer stage will be achieved through a range of initiatives, including specially designed sessions for ‘blue-sky thinking’, panel discussions, peer tutoring, and action learning, and group work and the

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application of problem-solving techniques (Krueger, 2009; Draycott and Rae, 2010). At this stage, team-mates will be expected to develop creative and analytical minds (see, for example, Bechard and Toulouse, 1998) and form their own creative teams for innovative activities within and beyond the laboratory.

The innovations and inventions hub (or pre-incubation phase) focuses on leading innovations and inventions from the bottom and empowers team-mates to take risks and build rewards around these. The team-mates spend time working on innovation activities and are expected to develop new products and new projects, to invent new technologies and develop new methodologies. The driving force here is encouragement of creative thinking, new invention and innovation in entrepreneurship, new models of intellectual property protection that stimulate creativity and enterprise education reforms that replaces rote learning with initiatives that stimulate creativity, entrepreneurship, sustainability, hands-on learning and original thinking.

The technology and enterprise development hub is designed to create pedagogy that supports the development of entrepreneurial behaviours, skills and attributes. It focuses on deployment of innovations and inventions, application of technology and translation of new ideas, projects, products and methodologies into viable business ventures. Once this is achieved the pedagogical challenge is to create a learning environment which provides opportunities for practising and developing these behaviours, reinforces the attributes and develops the skills (Gibb, 2002a; 2002 b).

Team-mates will acquire business acumen and be offered the opportunity to acquire competencies in business planning, proposal writing, management, leadership, negotiations and enterprise funding. These learning experiences will be complemented with real life business exposure through industrial internship, which provides a conducive environment for entrepreneurial learning where the learning takes place in an instructional context and an uncontrolled
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pedagogical environment (Gibb, 1997). Industrial internship recognizes that most learning which takes place is through relationships with the relevant stakeholder environment.

Finally, the panel review, assessment and final approval hub is the culmination of the KVAL entrepreneurial learning programme. Described as the ‘experimentation and test’ phase, it allows team-mates to test their business ideas in advance of the formal creation of the enterprise (see, for example, O’Carroll and Millne, 2010). This phase is designed to allow team-mates to participate in workshop discussions and seminar presentations and focus on important areas of business creation. Thus, team-mates can present their work (that is, business concept, business plans, business proposals, and so on) to assessors, potential investors and businesses in return for critical inputs, endorsements and support. The KVAL will provide the necessary support services by matching team-mates to potential investors, venture capitalists, angel financiers and businesses. Team-mates will also be helped through all the required business registration processes and licensing protocols.

Design conceptualization of the KVAL

The KVAL concept design and practice is shaped by distinct conceptual and philosophical issues: design philosophy, institutional strategy and practice and learning environment. In terms of design philosophy, the KVAL acknowledges that talented would-be graduate entrepreneurs can become more successful if they are properly nurtured, provided with necessary support mechanisms to develop, experiment and test their innovations and are integrated into an opportunistic environment in order to share ideas and build new strategies for growing their own companies (Andersen et al, 2000; Gibb et al, 2009).

The experimental business laboratory approach to entrepreneurial learning inspired the development of the KVAL initiative. Andersson et al (2009) explain this approach as being a network of outsiders – that is, entrepreneurial individuals coalesced from universities, research laboratories, start-ups and business partners – within an entrepreneurial innovation ecosystem. Sundbo (2011) further describes the experimental business laboratory as encapsulating both physical and logical environments which enable and facilitate two key stages of the innovation and entrepreneurial process. It also facilitates the creation of ideas and early testing of possible diffusion patterns in terms of viability and probability of success. Within an experimental business laboratory, innovative business ideas with high-growth expectations can be tested and a network of interconnections binds aspiring entrepreneurs, experts and non-experts together. This fertile environment provides an important opportunity for the radical transformation of, and departure from, the ‘business-as-usual’ habit, because each participant learns from the experiences of the others (Curley and Formica, 2010).

Would-be entrepreneurs in the experimental business laboratory can perform business experiments along a spectrum – from the ‘known knowables’ to the ‘unknown unknowns’, covering a wide range of issues such as morale, self-motivation, tolerance to risk, trust, concern for fairness, team behaviour and other human factors and traits that occur in and influence contemporary economic life (Amidon et al, 2005; Gibb et al, 2009). The experimental business laboratory approach shapes a community of entrepreneurs where members complement rather than threaten each other’s strengths. Both Amidon et al (2005) and Andersson et al (2009) describe this approach as a classic ‘win–win’ situation, reflecting an entrepreneurial culture which accepts that knowledge multiplies when shared (Gibb et al, 2009). Accordingly, the resulting interactions promote social and economic factors which engender entrepreneurial cohesion that in turn leads to the formation of the innovation ecosystem (Apgar, 2006).

In terms of institutional strategy and practice, the KVAL provides a hybrid configuration of campus-wide centralized and single department-led outreach models. These are entrenched in a formalized operational entity beyond the administrative jurisdictions of a particular academic department, but which incorporate subsidiary feeder units across all academic departments within the university. This strategy demonstrates a shift in emphasis from the predominantly business school-led approach of delivering entrepreneurship education towards a wider institutional strategy (Hannon et al, 2007). The central locus of this embedded institutional strategy is explained by its:

- innate potential to integrate the relative strengths in both instances, whilst balancing competing demands and concerns over fragility, survival, viability and future sustainability of entrepreneurial education within the HEI (see, for example, Jacob et al, 2003; Pittaway and Hannon, 2008) inter alia educational impact (for example, behavioural change, heightened awareness and research-led or vocational-led venture creation);
- academic credibility to reinforce notions of the imaginative application of new knowledge and its contribution to society;
- availability of human capital for developing an organization whilst enabling long-term sustainability;
The development of the KVAL.

facilities and services as well as proactive participation in
students the opportunity to take advantage of the available
departments within these, thus offering both staff and
linked to all six Colleges (faculties) and the 80
business laboratory. In operational terms, the KVAL is
process, the KVAL is housed in a modern, off-campus

critical thinking and the entrepreneurial development
necessary learning environment that would stimulate
complement the competency programmes and provide the
young graduates to early business start-ups. To
entrepreneurs, foster entrepreneurship and introduce
creative thinking processes in would-be graduate
educational and training programmes that stimulate
facets of the learning environment for developing
and complexity. The KVAL initiative recognizes these
entrepreneurial environment enriched with uncertainty
self-determination to create and enjoy their own
‘effective’ entrepreneurial behaviour; and, third,

In terms of learning environment, the KVAL initiative
departs from the conventional focus of enterprise
education (including new venture management,
development of business plans, business growth and
innovation) in order to consider an understanding of the
way that entrepreneurs live and learn (Gibb, 2002b). This
broader concept places strong emphasis on the
pedagogical and organizational processes necessary to
support entrepreneurial competency across a range of
different disciplinary and multidisciplinary contexts (see,
for example, Volkman 2004; Politis 2005; Roman et al,
creating a conducive entrepreneurship learning
environment: first, seeking to stimulate entrepreneurial
behaviour and enhancing the ability to cope with
uncertainty and complexity; second, designing
environments and organizations to facilitate and promote
‘effective’ entrepreneurial behaviour; and, third,
self-determination to create and enjoy their own
entrepreneurial environment enriched with uncertainty
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facets of the learning environment for developing
educational and training programmes that stimulate
creative thinking processes in would-be graduate
entrepreneurs, foster entrepreneurship and introduce
young graduates to early business start-ups. To
complement the competency programmes and provide the
necessary learning environment that would stimulate
critical thinking and the entrepreneurial development
process, the KVAL is housed in a modern, off-campus
business laboratory. In operational terms, the KVAL is
linked to all six Colleges (faculties) and the 80
departments within these, thus offering both staff and
students the opportunity to take advantage of the available
facilities and services as well as proactive participation in
the development of the KVAL.

Conclusions
The increasing global campaign to boost the level of
graduate entrepreneurial activities, coupled with the
drive of the Government of Ghana to significantly
reduce unemployment rates, requires the creation and
implementation of strategic graduate entrepreneurship
programmes. The establishment of the KVAL could, it
is argued, bring significant benefits to the university,
Ghana and the entire sub-Saharan region of Africa. If
successful, this could potentially increase levels of job
creation and boost early stage business start-ups and the
creation of spin-off companies. In terms of its design and
practice, the KVAL concept is shaped by a number of
distinct conceptual and philosophical issues, including
design philosophy, institutional strategy and practice and
the learning environment. Key measures of success of
the KVAL will be its ability to attract talented and
energetic graduates with innovative ideas and
intellectual property to the laboratory and help them to
create and grow their innovative projects and businesses.
The KVAL proactively sets out to help accelerate the
growth of early-stage ideas and businesses into
venture-ready companies by facilitating the birth and
growth of small businesses with the provision of the
necessary resources such as management consultancy,
mentors, infrastructure support, social networks and seed
finance. It provides talented graduates with the
opportunity to apply knowledge and expertise to
important problems facing businesses, industry and the
country. The KVAL creates interdisciplinary linkages
with and collaboration between academic departments,
industry and other business institutions. It achieves this
by attracting the best talents into the laboratory for
transformational and self-actualization workshops
dealing with business innovations, entrepreneurship
development and new venture creation. Based on its
criteria and inspired by the paradigm of lifelong learning,
graduates from the KVAL will be able to pursue
professional development pathways: for instance, from
Associate to Professional Member and, ultimately, to
Fellow Member. It is to be hoped that KVAL alumni will
subsequently provide support services to the laboratory,
as resource persons, mentors and role models.

Limitations
It is acknowledged that, by design, this study does not
provide validation of the KVAL framework and that a
future longitudinal study should be commenced to test
the validity and impact of the KVAL approach.

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