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Abstract

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Keywords

Africa, entrepreneurship education, planning and evaluation, curriculum models

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Abstract

This study adds to the knowledge base of Entrepreneurial Education (EE) in selected technical training institutes in Kenya. Using qualitative research inquiry, semi-structured interviews were conducted with a question guidebook and follow-up questioning. Data were collected from students, instructors, and administrators selected through purposive sampling. Open and axial coding was used to categorize the transcribed interview responses. Peer review was used to ensure credibility and confirmability. The results reveals that the learning institutions prepared students as entrepreneurs through coursework, mandatory field internships, internal projects, participation in agricultural and business fairs, and providing startup capital for cooperative shops. EE delivery faces numerous constraints including inadequate start-up capital, inadequate access to land, and output and input market resulting from poor infrastructure, competition, lack of marketing skills, and exam-oriented curricula. Dairy, horticulture, poultry, and apiculture enterprises were identified as the most promising and viable enterprises for graduates of middle-level tertiary institutions. In conclusion, EE was being offered in these institutions as certificate courses or integrated as a topic in their existing curricula. In order to improve upon the delivery of the programs, the institutions needed to upgrade learning facilities, incorporating ICT in the curricula, enhance practical learning, conduct rigorous follow-up evaluations of graduates, and establish business incubators for providing start-up capital to graduates.

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Introduction

Entrepreneurship Education (EE) arose as a response to failures of school-to-work and Technical and Vocational Education and Training (TVET) programs in securing employment for those who graduate (DeJaeghere & Baxter, 2014). Recently, there has been a rapid growth in EE among tertiary education institutions around the world (Kuratko, 2005). This growth arises from the fact that entrepreneurs are catalysts to the attainment of economic and social development goals (Valerio, Parton, & Robb, 2014). According to the American Council on Education (2015), EE has enhanced growth in small and medium business enterprises, particularly in developing countries. This growth is partly associated with EE growth in middle-level tertiary institutions (Omidyar Network, 2014) which is a catalyst for the enhancement of entrepreneurial innovations (World Bank, 2010).

Mwangi (2012) argued that EE encourages higher learning institutions to think outside old-fashioned pedagogical methods and classroom teaching. The scope of EE has been expanded to cover varied audiences, goals, topics, and pedagogical methods (Fayolle, Gailly & Lassas-Clerc, 2006). Most EE institutions have introduced development of a business plan and compulsory work internship to provide learners with practical entrepreneurial skills (Mwangi, 2012). Although a variety of higher learning institutions prepare entrepreneurs in Sub-Saharan Africa (Baker, 2015), EE programs have many challenges. These challenges include shortage of highly-qualified staff, un-incentivized faculty, inadequate faculty development, inadequate levels of instructional resources (Baker, Bassey, Jimoh, & Akande, 2015; HRDC, 2013), inadequate curricula (Simpeh, 2011; HRDC, 2014). Other challenges include low

levels of understanding and interest by existing students (Nteere, Namusonge, & Mukulu, 2012), limited experiences for practical learning (Arogundade, 2011; HRDC, 2014), limited levels of support from the business sector (HRDC, 2013), a non-existent evaluation system for tracking graduates' progress (HRDC, 2013; Gichana, 2011), and lack of flexibility in the current overly-subscribed curricula (Katz, 2007).

In addition, there is a paucity of government-supported incubation programs and private-sector support programs in developing countries (Omidyar Network, 2014). Empirical studies have suggested a vast array of methods for delivering EE which include lectures, team teaching, group assignments, field tours, business plan development, case studies, problem-based learning, use of role models/success stories, attachments, internships, consulting assignments, actual running of a small business, and research projects (Jones & English, 2004; Frederick, 2007; Gatchalian, 2010; Mansor & Othman, 2011). In order to tackle these challenges, Arogundade (2011) suggested improvement of the basic education from which EE stems, development of public awareness on the need for vocational EE, and private-public sector partnerships. Gewer (2013) recommended inclusion of pedagogical experiential approaches. Baker (2015) suggested immersion of short-term experiences and distance learning technologies for training and retraining college faculty.

Formal EE in Kenya began in the early 1990's (Bwisa, 2011), with Kenya being among the first African countries to introduce components of EE into its education curricula (Simiyu, 2010). Partnership programs such as the Kenya Youth Business Trust, Women's Fund, and Youth Enterprise Development Fund (Gichana, 2011) have played crucial roles in

encouraging young people to acquire entrepreneurial skills by taking advantage of government financial support and entrepreneurship training (GoK, 2011; Omidyar Network, 2014). Kenya has witnessed an increase in EE programs not only in middle-level colleges but also in other institutions of higher education. Notably, numerous management-oriented training programs such as accounting, marketing and finance do not necessarily constitute EE programs. The skills and knowledge domains of small business management (SBM) can be quite different from knowledge domains and skills needed for entrepreneurs (Bawuah, Buame, & Hinson, 2006). Klatt, (1988) makes a distinction between the two by stating that EE programs are those that focuses on innovations and business startup whereas SBM education entails the actual operation of a business after it has been initiated. According to Haan (2006), EE programs develop attitudes suitable to starting a business and provide practical skills for managing it. Limited research has been conducted that documents how EE programs are delivered in middle-level tertiary colleges, bottlenecks in their execution, and a plan of action, all of which are addressed in this study.

Theoretical Framework

This study is grounded on cultural entrepreneurship theory that argues that propensity for an individual to start a business venture is largely influenced by the prevailing culture (Simpeh, 2011; Gichana, 2011). Herrington, Kew and Kew (2010) contend that entrepreneurship can reveal the latent potential of the South African economy. Entrepreneurship roles can be culturally and experientially acquired. Regional entrepreneurship is enhanced by training and education interventions so that there is a growing acceptance that

components of entrepreneurship can be delivered and learned. The entrepreneurial culture is key to motivating young people to take up business-related programs in middle-level tertiary colleges (Herrington et al., 2010) and primarily consists of training through hands-on skills (Simpeh, 2011). Cultural practices lead to entrepreneurial attitudes such as innovations that also lead to venture creation behavior (Gichana, 2011). In general, the characteristics of an entrepreneurial culture include innovation, foresightedness and persistence, among others.

What's more, EE is one of the best ways of promoting it (Afriyie & Boohene, 2014). Ngosiane (2010), demonstrated that EE can promote entrepreneurial culture by encouraging students to form clubs in their education institutions. In order to achieve the economic and other benefits associated with entrepreneurship development, a myriad of training programs in Kenya must integrate self-employment and entrepreneurship into the curricula at all levels of education (Gichana, 2011). Empirical studies have demonstrated that entrepreneurship knowledge, skills, and practices can be learned through formal EE programming (Kuratko, 2005). Entrepreneurial Education programs must promote certain attitudes towards taking risks. Thus, there is a need to have a clearer understanding of EE programs in middle-level tertiary institutions in developing countries.

Purpose & Objectives

This study was intended to gather information on the status of middle-level tertiary EE programs in the Rift Valley of Kenya. The study objectives were to:

1. Determine existing preparation of students for entrepreneurship;
2. Ascertain constraints facing implementation of EE programs;

3. Identify promising enterprises for graduates, and
4. Disclose strategies for improvement.

Methods

The study focused on agricultural middle-level tertiary colleges located in the Rift Valley of Kenya, namely Baraka Agriculture College (BAC), Eldoret Polytechnic (EP), Sangalo Institute of Science and Technology (SIST), and the Rift Valley Institute of Science and Technology (RVIST) training institutes. EP is located in Eldoret town and has an enrollment of 4,339 students at its home campus and branch campuses in Entebbe and Turkana North. RVIST is located in Nakuru and has a student enrollment of over 5,000 students on two campuses offering both full-time and part-time programs in a wide range of academic majors in its higher diploma, diploma, and certificate programs. SIST is located near Bungoma town and its enrollment is about 1,400 students. BAC is a faith-based middle-level tertiary institution affiliated with the Catholic Church that educates and trains farmers. Its enrollment is around 300 students and it offers short courses, certificate and diploma programs in agriculture. The study was conducted between November 9th and 14th in 2015.

The study employed a case study as a blue print for the collection and analysis of data. Ary, Jacobs, Razavieh, and Sorensen (2006) defines a case study as an in-depth study of a single unit, such as one individual, a group, one organization, one program and so on. Data were collected from twelve students, four instructors, and four administrators where three students, one administrator and an instructor were recruited from each of the four institutes. The selection of the institutes and participants for this study was through purposive sampling. Both certificate (those

taking a one year program) and diploma students (those taking a three year program), administrators and instructors involved in teaching of EE courses were selected to attain a clear understanding of the programs. The student participants were class representatives (class leaders), instructors were agriculture teachers, and administrators comprised of either the principals or deputy principals. These were deemed to be the most appropriate group to provide insights that would facilitate the description of the status EE program in the institutes.

Creswell and Plano Clark (2011) posit that purposive sampling calls for a selection of individuals or groups who have knowledge about the phenomenon being studied. Three authors were involved in data collection and the research was conducted in English, a language spoken by both researchers and participants. Data were collected by use of semi-structured interviews using a guidebook of questions and follow-up questioning. The guide covered the meaning of entrepreneurship, students' preparation for entrepreneurship, promising enterprises for graduates, program accreditation, teaching and mentoring, and associated constraints.

Semi-structured interviews were preferred to allow room for the researcher to explore the answer to one question and permit flexibility for the researcher to ask other questions which are not necessarily in the interview guidebook (Goodall, 2008). During interviews, discussions were audio recorded and notes were taken. The recordings were transcribed and notes were compared with transcriptions. The research team used open and axial coding to categorize the transcribed interview responses. Research rigor was achieved through credibility, transferability, dependability and confirmability (Creswell, 1998). The context, methods and procedures are well described, logical and clearly

documented to ensure that the findings were dependable and transferable (Tobin & Begley, 2004). Three levels of participants were involved; students, administrators and instructors to ensure data triangulation. Observations were made by the researchers in the processes of data gathering to gain an understanding of variables under study. Coding, analysis and interpretation of the data involved three researchers to ensure investigator triangulation. Peer review, field notes and brochures describing the courses offered at the institutes were used to achieve credibility and confirmability while study context ensured transferability (Tobin & Begley, 2004). The data were clustered and categorized based on the concepts and themes that emerged.

Results

Twenty participants were interviewed including four administrators and four instructors. Among the participants, 14 were male while six were female. Five key themes emerged and were coded as follows: (1) students' knowledge of entrepreneurship; (2) students' preparation for entrepreneurship; (3) constraints facing entrepreneurship education; (4) promising enterprises for graduates; and (5) strategies for improvement.

Students' Knowledge of Entrepreneurship

In an effort to assess the students' knowledge of entrepreneurship, the participants were asked to give the meaning of the term entrepreneurship. Most of the students had knowledge of the concept. For instance, a student from RVIST defined it as *"process of scanning the environment to identify of entrepreneurial opportunities."* Another student from SIST stated that entrepreneurship is *"the act of scanning the business environment i.e. looking for the opportunities around you, gathering the*

resources, start a business idea/innovation that can help you earn a living." Implicit in these definitions is the identification of an idea and putting it into an action which all of the formal definitions of entrepreneurship agree with. Their definitions captures three elements, identifying an idea, looking for resources and implementing the idea. Formal definitions consider entrepreneurship as the practice of coming up with new ways of combining resources (Sobel, 2008). Nafukho and Muyia (2010) believe EE is a catalyst for business startup, it educates students how to start and manage enterprises. These definitions emphasize the realization of individuals' potentials and maximizing opportunities for business growth. Fayolle and Gailly (2008) argued that the varying definitions of entrepreneurship results from variations in pedagogical methods in EE.

When asked to distinguish small business from entrepreneurship, most of the students could distinguish the two. A student stated that *"entrepreneurship is a practice that involves risk-taking in launching a new venture. While small business is a limited scale enterprise which involves a small capital to start."* A number of students noted that *"small business is a form of entrepreneurship but entrepreneurship involves higher risk taking and innovation."* However, a few students had difficulties explaining the difference between the two concepts, some of whom argued the two are the same. The two terms are often confused and used interchangeably. While most entrepreneurial ventures begin as a small business, not all small businesses are entrepreneurship as pointed out by Julien (1997). The key difference between small business are entrepreneurial enterprises, as a small business is a limited-scale enterprise owned and operated by person or group of persons whereas an entrepreneurial enterprise is the practice of designing,

implementing and managing a new business, which begins as a small business.

Students' Preparation for Entrepreneurship

The first objective sought to describe how students were prepared as entrepreneurs in these diploma-granting colleges. According to the majority of students, the institutions provided knowledge and skills to students through theoretical principles taught in class, exposing them to practical experiences such as forming business clubs and compulsory field attachment. A student at RVIST taking a certificate course said that *"I will take class work for one year followed by a three months industrial internship."* Another student stated *"in addition to classwork and internship, we are allocated farming plots in groups to produce crops for sale."* Further, the diploma students pointed out that they were required to develop business plans in their third year of study. The students were motivated to develop business-oriented research projects. During the programs, students are mentored from inception to the end of their projects. Instructors and administrators noted that institutions had integrated EE in the curriculum, provided practical skills for students through field attachment and internal projects, exposed students to agricultural and business fairs, and provided startup capital for cooperative shops. This would help promote entrepreneurship culture among the students as promoted by Ngosiane (2010).

However, this was not the case in all instances. While emphasizing the importance of practical learning one of the instructors said that *"the institutes have not succeeded in providing sufficient hands-on experiences due to our theory courses that do not require practical experiences and lack of adequate attention to the students' business plans."* Research has shown that entrepreneurs learn at varied paces and differently from one

another (Gatchalian, 2010). They require concrete pedagogical approaches which incorporates the deep learning of theory, process, and the practice of entrepreneurship (Frederick, 2007).

In an effort to expose students to practical experiences some institutions such as BAC encouraged students to form and run business clubs as argued by Ngosiane (2010). BAC students initiated small businesses such as salons, barbershops, and grocery stores, and students were required to keep and maintain business records that were used from time-to-time by the instructors in classroom teaching. BAC also provided seed capital in the form of soft loans and grants (on the needs-based system) to help its students start for-profit clubs as business centers. An instructor from BAC stated: *"students operate different forms of business enterprises and are obliged to maintain business records. They divide their shares and dividends equitable upon completion of their course."*

Some colleges allocated plots (3.05 m by 3.05m) to the interested clubs on their institution's farm to grow quick-maturing crops such as kale, cabbage, and fruit for sale. Although BAC was the smallest institution in terms student enrollment, it did the best job in training students for entrepreneurship. BAC used a learning-by-doing approach in which student participation was accentuated. The training allows the students to reflect on the course content in order to apply it in their student clubs. An argument advanced by an instructor in the institution who said *"entrepreneurship in diploma is meant to give competencies to graduates necessary for planning, starting and managing a business. During training, we try to change the attitude of the students not necessarily to rely on employment but also venture into entrepreneurial activities."* These findings agree with Cope (2005) who indicated that

the only ways to learn to become an entrepreneur are through learning-by-doing and direct observation. All of the EE programs that were observed are accredited by the Ministry of Education. The instructors indicated that all the EE courses offered by the institutions were registered by the Kenya Curriculum Development Institute.

Constraints Facing Entrepreneurship Education

Objective two sought to determine constraints facing implementation of entrepreneurship programs in the colleges. Despite the fact that EE was integrated into the curriculum, its implementation faced a number of constraints. *“Inaccessible credit”* was a key problem facing EE graduates desiring to start-up or grow their businesses. A student at EP emphasized that *“most graduates lack the startup capital and cannot access credit facilities due to lack of collateral, lack of government support.”* Another student at RVIST noted that *“credit facilities are expensive due to high-interest rates and credit was short-term in length which prohibited the purchase of capital equipment.”* Among the challenges, startup capital was perceived as the major barrier that prevented the college graduates from venturing into agribusiness. These financial constraints were confirmed by administrators and instructors.

Some students felt that access to land was inadequate due to land fragmentation and unfavorable land policies. Access to markets emerged as a constraint due to poor infrastructure (e.g. road conditions), as well as a lack of marketing skills. A student at BAC stated that *“there are no reliable markets for the produce and most produce is affected by their perishability.”* Alila and Atieno (2006) suggested that the main marketing challenges in Kenya include high transportation costs resulting from poor

roads, poor handling and storage of produce, and post-harvest losses.

The students also indicated that the EE curriculum was exam-oriented or taught in an expository nature where instructors focused primarily on students passing exams, at the expense of practical knowledge and skills that students needed to apply after the completion of the course. They reiterated that the instructors concentrated on the cognitive domain equipping them with theory delivered through examination-oriented instruction. A student at EP said that *“a lot of what we learn is theoretical with minimal opportunities for practical activities.”* Another student at RVIST mentioned that *“they would have wanted to be supported to start enterprises such as piggery, poultry and aquaculture at the institution and allowed to run them on our own. This would help us to replicate them once we complete our course.”* Karimi, Nyaga and Oudo (2014) argued that education systems that are exam-oriented are not successful in providing learners with the required skills and knowledge. Legas (2015) whose study focused on constraints to entrepreneurial success in Africa found that poor laws and regulations, corrupt practices, poor roads, inadequate capital, inadequate entrepreneurial training, and inadequate access to markets are the key causes of business failure.

The administrators and instructors further argued that infrastructure played a vital role in the graduates' ability to begin a small business. They stated that the minimum infrastructure required for business start-ups were good roads, marketing structures, and an ample power supply of electricity. They pointed out that in some areas agricultural products were sold in open-air markets, which compromises the quality owing to the fact that most of the products are perishable. An

instructor at SIST stated that *“module three of our program exposes our students to agro-processing and value addition which could somehow cure the problem of perishability. However, most of them cite lack of capital as an impediment to the utilization of knowledge gained.”* Ekeledo and Bewayo (2009) argued that a poor road network, poorly maintained rail lines, inadequate electrical grid and poor water supply make small business operations difficult. Jayaratne et al. (2017) observed that entrepreneurship-focused exchange programs between lesser developed countries and developed nations help to establish a comprehensive strategy that addresses agricultural and rural development challenges facing Sub-Saharan Africa.

Promising Enterprises for Graduates

Objective three sought to identify promising enterprises for graduates of EE. Based upon their institution's catchment areas, the participants were asked to identify four small business enterprises that hold the most promise for graduates as part-time supplements to their family income regardless of their academic major. Most of the students felt that it was easy to initiate and manage dairy (keeping livestock for milk production), horticulture (production of vegetables and fruits), poultry (rearing of chicken for either meat or eggs) and small Agrovet shops (shops that sell agricultural and veterinary products). A student at RVIST said that *“I would love to start a poultry enterprise because the market for chicken meat and eggs is readily available.”*

The majority of the administrators were in favor of grocery shops, apiculture, poultry, and horticulture. The instructors stated that the most viable enterprises that they would encourage graduates to venture into were dairy, crop, apiculture, and agroforestry. These enterprises, according to the instructors required less capital, though

were limited to their graduate's practical learning experiences in animal husbandry, crop science, apiculture, and/or agroforestry. An instructor at BAC mentioned that *“At third year students are required to develop a business oriented project that they would like to venture on after graduation. During this process the students are advised on how to go about it from inception to the end of their projects.”* Prevailing weather conditions were also identified by the instructors as a constraint, in that conditions in Turkana were very different than conditions in other parts of the Rift Valley. Overall, the participants agreed that dairy, horticulture, poultry, and apiculture were the most promising enterprises for graduates to start as part-time enterprises.

Strategies for Improvement

Objective four was to determine strategies for improvement of entrepreneurship education in the middle-level tertiary colleges. In order to curb the aforementioned challenges and better prepare the students for entrepreneurship, the administrators and instructors felt that the institutions needed to promote promising enterprises by supporting students in the formation of business clubs. Students could learn to run successful enterprises such as grocery stores, shops, and farming plots similar to the approach taken at BAC. A student at RVIST said *“we would like to be engaged more on mentorship programs to learn the challenges and opportunities that exists in various enterprises.”* They proposed the establishment of networks with local businesses within their catchment area to attach their students for internships upon completion of their coursework. These internships would create avenues for graduates to be mentored after graduation.

Further, the instructors suggested that the colleges should provide seed capital in the form of soft loans and/or grants based

upon student need to selected graduates to assist them as they transition into businesses as it is done at BAC. An administrator at BAC indicated that *“we have a program for supporting graduates with seed capital to start their own business within their communities. However, most of the sponsored students come from vulnerable families.”* The instructors noted that limited follow-up studies were being conducted to assess the students during field attachment. At BAC, an instructor said *“we do assess students on attachment but they normally pay Ksh 2,000 (\$20) to cover for the cost of assessment materials and transport.”* In addition, most of the institutions were not systematically following up with their graduates after completion of their courses due *“to limited resources and limited staff support”* as noted by an administrator at EP.

Conclusions & Recommendations

Entrepreneurial Education (EE) in middle-level tertiary agricultural institutions in Kenya's Rift Valley is offered as a stand-alone course and an integrated curriculum. Some colleges are in the process of developing full diploma programs in EE. This implies that EE at tertiary agricultural institutions in the region is still at the developmental stage, although it is deemed to be important in creating employment (Gichana, 2011) for the institute graduates. However, the increasing popularity and expansion of programs (some institutes are in the process of unveiling diploma programs in EE) in the institutes is a clear indicator of a likely growth of EE in the region. EE being delivered through face-to-face classroom instruction and through applied activities such as projects, student business clubs, as well as compulsory field attachments after the completion of the coursework. This would help promote an entrepreneurial culture among the graduates, a position held by several researchers (Jones

& English, 2004; Frederick, 2007; Gatchalian, 2010; Mansor & Othman, 2011).

The ability of the students to apply EE knowledge and skills to initiate and manage small businesses at their institutes is a clear indication of the importance and practicability of the programs. It is also a confirmation that the institutes were creating a culture of entrepreneurship among the students. EE predominantly consists of learning by doing (Cope & Watts, 2000) as such most institutes had integrated hands-on activities in their programs (Simpeh, 2011) although this was limited by resources. Entrepreneurship cultural theorists argue that the key objective of integrating EE content with practical activities within and outside the institutes (through field attachment) not only enhances the skills and knowledge of the students but also helps them apply those skills after graduation (Chakraborty, Thompson, & Yehoue, 2014).

Regarding promising enterprises for EE graduates, dairy, horticulture, poultry and apiculture enterprises are the most promising based on the prevailing social and environmental conditions in the region. In some institutes there was a mismatch between graduate needs for EE and actual outcomes in terms of entrepreneurial skills, knowledge, and attitudes (Matlay, 2008). EE curriculum needs to be revised to accommodate the promising enterprises so as to meet the needs and aspirations of the students. This will in turn make the programs more meaningful and would motivate more students to take up EE programs (Herrington et al., 2010).

The biggest constraints facing middle-level tertiary college graduates is the lack of seed capital arising from high-interest rates due to a lack of collateral to guarantee loans. Inadequate access to land is also a barrier to graduates as argued by Baker, Bassey, Jimoh and Akande (2015) and HRDC (2013). The land inadequacy is

in part due to a gradual increase in rural population growth that has outstripped the growth in arable land, land fragmentation through family inheritance, and unfavorable land policies. Other constraints include exam-oriented curricula that emphasize theory without opportunities for experiential application (Karimi, Nyaga & Oudo, 2014). Inadequate access to markets is also a constraint due to poor infrastructure, competition, and a lack of marketing skills (Legas, 2015).

In order to curb the aforementioned challenges and better prepare students as entrepreneurs, more experiential opportunities are necessary to enable students to relate the theoretical principles to practice (Ngosiane, 2010). The technical institutes should establish business incubators for promising graduates for start-up capital. Incubators would enable the institutes' graduates to actualize their dreams of becoming entrepreneurs. This can be done with mentorship from instructors and experienced business persons to nurture social entrepreneurship (Etzkowitz, 2003). The authors recommend that each college budget resources for the systematic follow-up to document challenges that young entrepreneurs face and to track successful entrepreneurial graduates. Successful entrepreneurs contribute to economic development in the region by adding jobs and growing the tax base through a multiplier effect. Successful entrepreneurs can also serve as mentors to students in the EE programs. EE facility upgrades are necessary to enhance library holdings, build ICT capacity, enhance applied opportunities for students, and for providing land, equipment, and other infrastructure (e.g. packing houses for horticultural produce) appropriate for their catchment areas as suggested by Baker (2015).

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