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Entrepreneurship education as human capital: Implications for youth self-employment and conflict mitigation in Sub-Saharan Africa

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Abstract

Previous research has focused on stable developed economies to predict that human capital and entrepreneurship education (EE) provision at the higher education (HE) level will positively affect entrepreneurial success. This article draws on the outcome of recent EE projects in two HE institutions in a conflict-torn northern Nigeria as a proxy to advocate the introduction of entrepreneurship as a compulsory component into the secondary school curriculum in Sub-Saharan Africa. Using semi-structured interview data, it is found that the provision of EE at secondary education level could help to facilitate human capital development and assist efforts to curb youth unemployment. Specifically, the study suggests that EE comprises both generic and specific human capital that increases an individual's ability to identify and exploit opportunities, particularly for young people, and in doing so helps to reduce their vulnerability to poverty and involvement in armed conflict. Suggestions for future research and policy considerations are provided.

Keywords

Conflict, entrepreneurship education, human capital, Sub-Saharan Africa, youth self-employment

Entrepreneurship education (EE) is a vital component of human capital development and entrepreneurial success (Dimov, 2010; Dimov and Shepherd, 2005; Kuratko, 2005; Unger et al., 2011; Volery et al., 2013). Recent growth across the world in the development of curricula and training programmes devoted to entrepreneurship has been remarkable (Arogundade, 2011; Katz, 2003; Nweakaku, 2013 [AQ2]; Ojeifo, 2013). Of particular interest is Sub-Saharan Africa (SSA) where various EE initiatives (see Kabongo and Okpara (2010) for a list of African higher education (HE) institutions offering EE) appear to have spurred interest in entrepreneurship activity. Entrepreneurship activity is helping the current upswing in economic activities across the region. For instance, gross national income per capita has more than doubled from \$US486.4 in 2000 to \$US1637 in 2015, and the latest real GDP growth is put at 5.1% (IMF, 2015 [AQ3]). Most SSA countries are growing at between 6% and 11%, better than the rest of the world (AfDB/OECD/UNDP, 2016). Consumer spending is buoyant at \$1.4 trillion, outstripping that of India, Brazil, and more than double that of Russia (McKinsey Global Institute, 2016) [AQ4]. In addition, this year's

2.6% forecast for economic growth in SSA is higher than the predicted 1.9% for advanced developed economies, including the Euro Zone, Japan and the United States (World Bank, 2017). Ironically, these positive economic indicators mask the reality of life for millions of young Africans who have been left behind.

Persistent poverty, a high rate of youth unemployment and conflict are among the serious challenges that most SSA economies still face. Recent aggregated data from the Pew Research Centre show that the formerly poor populations in SSA have transitioned mostly into low-income status (i.e. those on \$2 per day with a significant risk of slipping into poverty), increasing from 45% to 54% between 2001 and 2011 (Simmons, 2015). Thus, the percentage of those who could be classified as either poor or

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low-income barely changed over that period, down by only 2% from 94% to 92%. Notably, as Africa's largest economy and the most populous country, Nigeria's share of the poor fell by only 8% between 2001 and 2011, resulting in a 17% increase in low-income earners and just a 1% boost in the share of the population that could be regarded as middle-income (Kochhar, 2015). Overall, in reality, 90% of SSA's population still live on less than \$US10 a day, with an intractably slow growth in the middle-income population, which was merely 6% as at 2014 (Economist Intelligence Unit, 2015). This mixed situation has been linked with lack of economic opportunities and access to decent jobs among mostly young people. Partly, this situation is a consequence of the youth bulge phenomenon in SSA (United Nations, 2015b). Africa's youth bulge has been associated with increased youth unemployment and the resultant opportunities and motives for political violence and conflict (Bertochi and Guerzoni, 2012; Urdal and Hoelscher, 2012). Political violence and conflict, in turn, have given rise to the economic fragilities prevalent in the region (Kunkeler and Peters, 2011).

Despite this situation, many African governments appear to be either under-informed or completely oblivious to the immediate and long-term priorities of many young people who either lack access to jobs or economic opportunity. If anything, the relations between countries in SSA and their often-marginalized unemployed youth populations have directly impacted the security and the socio-economic growth prospects of the region (Goldstone, 2002; Hendrixson, 2003). Access to decent jobs and economic opportunities is hindered by limited or lack of access to EE, which is essential to human capital formation and entrepreneurial success (Barakat and Urdal, 2009; Egerová et al., 2017; Frederiksen and Munive, 2010; Honeyman, 2016; Unger et al., 2011). Until now, however, the relationship between EE and human capital in the context of SSA has not been the focus of most prior EE studies. In fact, previous studies that focused on the relationship between EE and entrepreneurial success in other regional contexts (e.g. Europe) have followed a basic line of reasoning. That is, there is an assumption that exposure to EE at a HE level positively affects an individual's ability to have a successful entrepreneurship career, and that this effect is independent of any prior knowledge of EE (Fayolle and Gailly, 2015; Karimi et al., 2016; Rauch and Hulsink, 2015). Viewed from this perspective, an interesting empirical question that arises is: what happens if the labour market is unable to absorb a sudden pool of educated but largely unemployed graduates? That situation is still likely to cause strong frustration and lead to an increased tendency to support political violence and armed conflict. This is currently the case in SSA.

However, Oosterbeek et al. (2010) and Elert et al. (2015) found evidence to reject this assumption. This implies that it may be possible to introduce EE at a secondary education

level, and perhaps even adjust EE curriculum to meet the specific needs of learners regardless of the constraints and where they are in the education value chain (Johansen and Schanke, 2013). A study with a focus on the importance of teaching EE in secondary education for entrepreneurial success is therefore necessary both in the wider context of the Sustainable Development Goals (SDGs) framework – which strongly advocates the provision of entrepreneurship at all levels of education as a way to tackle global poverty and unemployment and promote a culture of non-violence across the world (United Nations, 2015a) – and in the specific context of the Continental Education Strategy for Africa (CESA 16–25), which advocates the provision of EE and training in schools across the region as a way to unlock young people's potential for entrepreneurial success. In addition, the increasingly narrow and 'fragmented' nature of the EE research domain calls for new experimental contexts in which to investigate the importance of EE for entrepreneurial success (Fox et al., 2018: 62). Lamenting the current state of affairs, Fayolle (2003) in particular urges researchers to integrate new experimental contexts in order to develop a more inclusive and stronger conceptual foundation for future EE theorizing. Thus, this article's focus on SSA is an attempt to close this knowledge gap.

As such, Sub-Saharan northern Nigeria presents a new experimental context in which to investigate the importance of EE to the development of human capital and entrepreneurial success. Besides, secondary school students in the region represent a population that has received very limited attention in previous EE studies, despite the fact that they constitute the majority of those in education in most developing countries (Volery et al., 2013). Even in developed economies, where youth unemployment is relatively low compared to SSA, the importance of 'mainstreaming' EE at secondary school level as a way to reduce unemployment among young people has been the focus of research efforts (Birdthistle et al., 2007: 1). In line with this, this study found that the provision of EE as part of secondary school education could help to accelerate human capital development, curb joblessness and consequently reduce young people's involvement in armed conflict. Based on this finding, this article takes the view that extending EE as a compulsory part of secondary education might help to address the persistent issue of youth unemployment and conflict in SSA, which have implications for the region's youth bulge phenomenon.

The rest of the article is organized as follows. The next section considers the implications of the youth bulge phenomenon in SSA. The article then scrutinizes the relationships between human capital, EE and entrepreneurial success. In doing so, it attempts to draw a distinction between EE and technical and vocational education and training (TVET) – the education platform on which many governments in SSA have historically relied to provide mostly young unemployed people with knowledge and

skills for employment. The subsequent section explains and justifies the methodology. This is followed by an analysis of the interview data to estimate the potential effect of integrating EE into the secondary education curriculum. It presents the view that compulsory entrepreneurship study in secondary schools could help to catalyse national efforts to widen access to jobs and economic opportunities, thereby reducing young people's vulnerability to poverty and terrorist conflict. Based on the observed similarities between EE and the components of human capital needed for entrepreneurial success, the final section offers contributions for future research and policy in EE.

Implications of youth bulge in SSA

The youth bulge represents a disproportionately large cohort 'in the ages 15–24 years (this number increases if 25–35-year olds are included) relative to the total adult population' (Urdal, 2006: 608). Recent estimates suggest that the youth population in SSA, more than in any other region of the world, will be more than double by 2055 from its current estimated level of 226 million (United Nations, 2015b). From an employment and education standpoint, this presents governments in SSA with an enormous challenge. For instance, governments must find a way to deal with the challenges associated with the exponential growth in the working-age population through the provision of access to decent jobs and economic opportunities, particularly for young people. This will be feasible only through the creation of a learning environment in which young people can develop a strong entrepreneurial culture via access to EE across the education value chain. Where this is lacking, coupled with lack of access to decent jobs, young people may become less productive and, as a result, support political violence and armed conflict. Using cross-national data for armed conflicts, including terrorism and intra-state conflicts, Urdal (2006: 1) found strong empirical support for the idea that the youth bulge in developing countries provides an incentive for young people to engage in violence and conflict 'through the abundance of unemployed youths with low productivity'.

Although the incidence of youth bulge is a phenomenon across most developing countries, SSA has a greater share of unemployed young people than any other region of the world (United Nations, 2015b). This implies that SSA is more vulnerable to the consequences (e.g. youth unemployment) of youth bulge than any other region. The mass unemployment in SSA increases youth poverty and makes young people's access to HE very difficult, if not impossible. Poverty, unemployment and lack of access to HE increase young peoples' predisposition and vulnerability to violence (Bertochi and Guerzoni, 2012; Cramer, 2011; Goldstone, 2002; Olawale, 2016). For instance, in Nigeria, the percentage of youths admitted to HE in the economically fragile north was put at abysmal 10%, compared to

23.5% in the southern region (National Bureau of Statistics, 2016). This situation is responsible, at least partially, for the 56% unemployed northern Nigerian youths, some of whom are known to support the Boko Haram terrorist group (Onuoha, 2014). Equally, in Ethiopia, survival is much harder for unemployed youths, 30.7% of whom live below the poverty line because they lack access to HE (ILO, 2016). Just as in Nigeria, youth unemployment and poverty help to exacerbate ethnic and intra-state conflicts (e.g. Oromo insurrection) in Ethiopia (Azeng and Yogo, 2013; Záhorkík, 2014). Similarly, in Kenya, 90% of the unemployed young people involved in political conflict (some 35%) lacked access to HE as well as skills for self-employment (Kempe, 2012).

This means that living conditions for young people in SSA are daunting. Most, and especially the young women, have a heavier family burden, less disposable income and less access to life-changing opportunities than their global counterparts (Duflo, 2012). At a staggering 70%, working youths in poverty (i.e. those in employment but earning less than \$US2 a day) in SSA remain the highest globally (ILO, 2016). As a compounding factor, many young people are forced to flee from conflict; thus among mostly the young population of SSA, there is a strong incentive to emigrate (Artuc et al., 2015; Adepoju, 2000). For instance, the constant migration of young Africans across the Sahel and through the Mediterranean route to Europe, sometimes with fatal consequences, is an obvious manifestation of the failure of many African governments, and to some extent their international partners, to recognize the devastating effect of youth unemployment and the potential to tackle this situation through increased investment in EE (Frederiksen and Munive, 2010). Frankly speaking, it is hard to overstate the effect education in general can have on the lives of young Africans. Barakat and Urdal (2009) argue that encouraging high enrolment at all levels of education could be a way to respond to the negative effects of Africa's youth bulge phenomenon. Moreover, further analysis has shown that educated young Africans are increasingly becoming aware that violence is unhealthy for human capital and socioeconomic development. Hence, there is now a growing preference among young Africans for productive dialogue rather than violence, and an increasing demand for socioeconomic change and transformation through an emphasis on the acquisition of entrepreneurial knowledge and skills (Tlou, 2014).

Although most countries in Africa do not yet include entrepreneurship in the secondary school curricula, some SSA countries, especially those with a history of conflict (such as Nigeria and Rwanda), in an attempt to promote their peace-building efforts, have introduced entrepreneurship in both secondary and HE curricula as a way to provide young people with access to the knowledge and skills for self-employment. Ultimately, the aim is to use EE as a vehicle for human capital formation and entrepreneurial

success (Beine et al., 2008; Checchi, 2006; Martin et al., 2013; Unger et al., 2011), which in turn can help to reduce young people's vulnerability to unemployment and conflict (Arogundade, 2011; Honeyman, 2016; Nwekeaku, 2013; Nafukho and Muya, 2010; Ojeifo, 2013). Against this background, the article draws on a human capital perspective to shed further light on the view that individuals who possess entrepreneurial knowledge and skills acquired through education, training and experience are far more likely than not to achieve entrepreneurial success in the context of SSA.

EE, human capital and entrepreneurial success

Distinguished in terms of general and specific components (see Gimeno et al., 1997; Pennings et al., 1998), human capital was originally conceptualized (Becker, 1964) and formalized (Mincer, 1974) to estimate employees' productivity based on knowledge and skills acquired through education, training and experience (Lepak and Snell, 1999). General human capital is understood in terms of overall practical experience and education, whereas specific human capital relates to 'education and experience with a scope of application limited to a particular activity or context' (Dimov and Shepherd, 2005: 6). Entrepreneurship researchers borrowed the human capital concept to estimate antecedents to entrepreneurial success (Bosma et al., 2002; Cooper et al., 1994 [AQ5]; Dimov, 2010; Dimov and Shepherd, 2005; Davidsson and Honig 2003; Gimeno et al., 1997; Marvel et al., 2014; Unger, et al., 2011; Volery, et al., 2013). Specifically, the thinking is that human capital increases the individual's capability to discover and exploit opportunities that may not be visible to others (Shane and Venkataraman, 2000 [AQ6]), helps to harmonize the strategic planning and marketing competencies required to exploit those opportunities (Baum et al., 2001; Chell, 2013; Frese et al., 2007) and serves as a prerequisite for continuous learning essential to the efficient and effective management of an entrepreneurial activity (Martin et al., 2013). Notwithstanding, the relationship between human capital and entrepreneurial success varies in the literature. While some (e.g. Frese et al., 2007) have reported a moderate to high relationship, others (e.g. Davidsson and Honig, 2003) have reported a low relationship.

In considering the relationship between human capital and entrepreneurial success, one could argue that the greater the human capital acquired through general education and practical experience via EE, the better will be the performance in undertaking an entrepreneurial task (Becker, 1993). The real question, however, is whether EE as a domain of general education provides the cognate entrepreneurship knowledge and skills essential to particular kinds of entrepreneurial attributes – for example, an accurate perception of risks and threats and the ability to

exploit opportunities. While general education may contribute to general human capital, it is argued that EE contributes to both general and specific human capital. EE provides the prerequisites for the acquisition of competencies essential for entrepreneurial effectiveness in any type of business environment (Hanon, 2006; Welter and Smallbone, 2010). Entrepreneurial effectiveness is the ability of an individual to behave or function in an entrepreneurial capacity (Fayolle and Gailly, 2008; Kuratko, 2005). Mitchelmore and Rowley (2013) identify several key entrepreneurial competencies which are essential to entrepreneurial success in any type of business environment: (1) idea generation; (2) innovation skills; (3) visioning; (4) envisioning opportunities; (5) product innovation; (6) creativity; (7) a willingness to take risks; (8) scanning environments for opportunities; and (9) risk taking. Thus, EE can provide different layers of expertise needed for generating business ideas, creativity and innovation in a way that is difficult to achieve with other educational initiatives, such as TVET which has historically been associated with a way to provide young people in SSA with skills and knowledge for employment.

Perhaps, it may be useful at this point to draw a distinction between EE and TVET. This is important, given that most countries in SSA have long relied and still rely on TVET educational programmes to support mostly unemployed young people who either have or lack access to secondary education to enter into the employment sector. Before the recent emphasis on EE, TVET was regarded as a means of providing young people with the knowledge, skills and the vocational training required for employment in a variety of sectors independent of general education (Foster, 1965; Watson, 1994). This implies that there may be a distinction between the specific skills acquired from TVET and the skills that general education provides. In any case, it is worth noting that many of the arguments and counterarguments (e.g. Broek et al., 2015; Baraki and van Kemenade, 2013; Foster, 1987; Hawley, 2003; Heyneman, 1987; Kahyarara and Teal, 2008; McGrath, 2012; Mouzakitis, 2010; Neuman and Ziderman, 2003; Palmer, 2014; Psacharopoulos, 1997; Powell, 2001; Tilak, 2002; Yang, 1998) about the efficacy of TVET in meeting current labour market needs in SSA centre around the original assumption that vocational training is more specifically relevant to job entry than is general education. Although that assumption may have been appropriate in the context of producing 'specific human capital' needed to undertake a particular job, overcoming the current labour market challenges (e.g. the imbalance between labour market requirements and the deficiency in employability skills) in post-independent SSA, which requires more than just developing the specific skills needed to do a particular job.

It entails developing both the human capital and the diversity of skills needed to respond effectively to the changing dynamics of the labour market in a globalized

economy of which SSA is a part. Hence, regardless of the perceived benefits of TVET as vocational education for skills development (see Filmer and Fox, 2014; Johanson and Adams, 2004 [AQ7]; Psacharopoulos, 1997), it is now increasingly regarded ‘as a training for future training; not as a way to facilitate entry into the job market’ (Oketch, 2007: 220). In addition, for various reasons, even in those African countries that have invested heavily in TVET, the contention seems to be that it has failed to live up to young people’s career aspirations, especially in an increasingly globalized knowledge economy. The most forceful argument is that TVET is an essentially ‘occupational education, terminal in nature and associated with colonial educational administration mentality and therefore undesirable in post-independent Africa’ (Oketch, 2007: 221). There is also a perception that, whereas TVET limits access to higher educational aspiration, general education provides a pathway for young people to continue in education at the highest level (Atchoarena and Delluc, 2001; Palmer, 2014; McGrath, 2012). These perceptions almost entirely stem from a widely held belief, whether rightly or wrongly, that TVET has become a ‘simple solution’ to the complex socioeconomic challenges facing youths in a post-independent SSA.

Arguments in support of general education suggest that it creates the ‘general human capital’ over a person’s lifetime, which carries the advantages of the ‘flexibility’ and ‘mobility’ of knowledge and skills needed by young people to respond and adapt to changes in today’s globalized labour market (Tilak, 2002). Moreover, TVET’s focus on vocational training for specific skills appears to be anachronistic, and thus lacks synergy and consistency with other national, regional and international efforts designed to respond to the current job aspirations of many young unemployed Africans (Broek et al., 2015). In addition, the homogenous nature of general education allows it to share synergy with other continent-wide and global education initiatives, such as those championed through the Education for All and the SDGs frameworks. By contrast, TVET has a complex pattern of provision that makes it difficult if not impossible to harmonize it as a way to address the socioeconomic and unemployment challenges many young people face (Lewis, 2009). This complexity is most evident in the SSA context – particularly, between the anglophone and francophone countries with historical ties to Europe, where TVET requires a set of complicated, often different, implementation criteria that learners are required to follow in order to access its perceived benefits (Oketch, 2007).

In contrast, general education offers a more attractive and appropriate educational template that is congruent with different national, regional and international education agenda (e.g. the SDG framework) promoting the need to tackle youth unemployment and foster a culture of non-violence. As a component of general education, EE seems to be a more flexible and seamless educational model that

can easily be embedded and adapted to suit national education curriculum in many African countries regardless of any historical ties with Europe. The EE curriculum, if designed appropriately, can help to create the conditions that make it possible to acquire continuous knowledge for creativity and innovation in a way that has been difficult to achieve so far under the TVET scheme. It is understandable, then, why EE has come to represent a more holistic and coherent educational strategy, which governments and education stakeholders across the world have embraced as a way to instil in young people a renewed sense of entrepreneurial orientation, particularly in regions with a high rate of unemployment, poverty and conflict, such as in SSA (Tobias et al., 2013).

Methodology

Case studies of EE projects Nigeria

Niger State College of Education (CoE) and the University of Maiduguri (UniMaid) provided the specific contexts in which to implement two separate but related EE projects. Both institutions are located in northern Nigeria, where the high rate of poverty and unemployment is leading a proportion of young people to support Boko Haram. The two institutions were keen to enhance their institutional capabilities to provide EE by participating in the following knowledge transfer activities:

- staff training as part of continuous professional development (CPD);
- the design of an EE curriculum template; and
- the operationalization of business skills acquisition centres (also known as entrepreneurship centres).

CoE and UniMaid staff attended an intensive training programme in the United Kingdom led by knowledge transfer experts from the University of Wolverhampton. The pedagogical tools used to design and deliver the training followed the iterative approach of Kolb’s experiential learning which, according to Gopinath and Sawyer (1999), helps to reinforce the effectiveness of any training associated with EE. With regard to curriculum design, by working with six academic staff members from each institution, a three-way approach to curriculum design recommended by Klandt (2004) was used to develop institutional templates for (1) core modules, (2) elective modules and (3) structured hands-on business skills acquisition activities. Because developing entrepreneurial skills is central to any EE programme in terms of creating the learning pathways to acquire practical skills, entrepreneurship case studies and concepts were integrated into the core modules to offer learners contexts in which to acquire theoretical knowledge and practical skills simultaneously. The EE learning pathways focused on product development and analysis, forecasting, incentives, barriers to entry,

negotiation, valuation and financial structure for new (or existing) ventures in new or familiar markets.

By following Bechard and Gregoire's (2005) student-oriented EE methodology, which emphasizes the blending of entrepreneurship theory with skills acquisition and personal development, the business skills centres were operationalized. The learning activities in the skills acquisition centres were focused on idea generation, the application of entrepreneurial knowledge and skills, and the provision of business incubation services designed to generate revenues for both institutions. Overall, the programme of EE interventions was designed and delivered in a way consistent with the conceptual foundations of using general education pedagogies to develop human capital. The interventions ensured that learners could engage with structured learning activities considered fundamental to their specific needs and appropriate to their individual learning ability and circumstance. The participants acknowledged that the interventions had enriched their understanding and enhanced their ability to raise the value of EE in their respective institutions.

Sampling and data collection

Following Yin (2009), a snowball sampling procedure was used to recruit participants because of the conflict situation in northern Nigeria (snowballing has been used to obtain primary research data in situations in which conflict makes it difficult to reach potential participants – see Anugwom, 2011 and Bullough et al., 2014). Ten participants (five drawn from UniMaid and five from CoE) responsible for educating students taking entrepreneurship as part of their compulsory general studies course, and who had benefitted from the knowledge transfer programme described above, were interviewed for this study. Specifically, semi-structured interviews were used to collect primary data (Blaikie, 2010[AQ8]). The interview questions included the underlying motivation for investing in the skills acquisition centres and EE curricula. How had the dynamics of the Boko Haram conflict affected their ability to promote and deliver EE? Particularly, how have they incorporated the conflict dimension, given that majority of the programme beneficiaries were youths and university graduates? And did they have any strategy for reaching non-university youths in the area? The participants were also asked questions about how many students had benefited from EE intervention schemes.

The interviews were conducted using a telephone with a speakerphone facility and lasted on average for 35 min. They were recorded and transcribed verbatim with the aid of an audio recorder. To mitigate the risk of parsimony common in interviews that are not face-to-face, the work of Burnard (1994) and Irvine (2011), who advised creating an atmosphere of mutual trust during telephone interviews, was consulted. Mutual trust was established by

recounting memories of non-classroom and social activities undertaken with the participants during the intervention. Recounting these activities helped to put participants' minds at ease. The 10 interviews were conducted over a 4-month period between October 2016 and January 2017. To address the implicit bias in the literature (see Rubin and Rubin, 2005[AQ9]) portraying telephone interviews as inferior to face-to-face interviews, the work of Sturges and Hanrahan (2004) was consulted. They compared the two types of interview and concluded that there were no significant differences in terms of the results obtained, particularly when the telephone interview had been employed as a matter of necessity. In fact, the telephone interview has proved to be more appropriate to situations in which participants may be required to discuss sensitive subjects, such as the effect of pain and trauma on their well-being (see Carr, 1999). This is relevant to the research context of northern Nigeria as the majority of the participants had been affected by the Boko Haram conflict. Thematic analysis was used to analyse the data. The preliminary themes that emerged from the interviews are summarized below (Sekaran and Bougie, 2013).

Summary and analysis of findings

From the interviews, it appeared that participants had increased not just their knowledge about the fundamental principles of EE but also their awareness of how to modify the EE curriculum under different learning conditions in order to serve the needs of diverse learners in and outside the HE sector. The following participant captured the overall perception:

The idea that my colleagues and I had about involving students in entrepreneurship has changed. For example, before we never found it necessary to expose students to opportunities outside of their department or college, but from our training at the University of Wolverhampton, we discovered that companies can be invited to schools, and students can showcase their works to these companies. As a result of the training, we are now looking at extending our provision of entrepreneurship education beyond the four walls of the college to non-students who can benefit from our programmes. (P1)

There was thus a general perception that EE could provide different learners, including 'non-HE students', with the general and specific knowledge both in and outside the classroom essential for entrepreneurial success. The notions of productivity and entrepreneurial success were manifest in the participants' perceived changes to their professional practice and orientation following exposure to the EE intervention. P2 stated:

Before, I had a different view of training students. Now the view I have is to train students to go out and be on their own. I

want to train somebody to be creative, not just to serve as a subordinate to someone else. (P2)

Interestingly, the idea about educating students to be creative and self-reliant is not limited to those in HE. Participants felt that EE should be made available to every 'idle' and 'vulnerable' youth in the community:

Our constituency is not just the university but the larger Maiduguri community . . . get these idle youths who are vulnerable to Boko Haram propaganda, that they can be trained in our centre in entrepreneurship. (P7)

However, participants equally implied that there might be particular challenges associated with providing EE to youths outside the HE sector – the issues of inadequate resources and human capacity were highlighted, thus:

Regarding the non-university youths, first of all we need the resources to train them. These resources are not always available. We are constrained by resources. (P5)

Surprisingly, P5 put forward what seemed like a solution to dealing with the issue of resource limitation in providing non-university youths with EE:

The strategy we have to reach non-university youths is to proceed gradually. You cannot really compare our capacity for teaching undergraduates with our capacity for teaching non-university youths. (P5)

This view echoes that of Isaacs et al. (2007) who found that, apart from poorly trained educators, the lack of adequate resources was a major hindrance to the effective provision of EE in South Africa's non-HE settings. Thus, a lack of resources and inadequate capacity may hinder efforts to teach EE in secondary schools. Notwithstanding the lack of resources, however, there seemed to be a strong desire and commitment 'to do things differently' to accommodate the educational needs of non-university youths:

We will run a different curriculum for non-university youths. They don't have the same profile [as university youths]. Our approach for these ones [non-university youths] is upskill them. We want to train them in a particular trade. We want to teach them self-reliance by going out there to establish their own enterprises using the skills they have acquired. We also give them the opportunity for continuous training, for them to come back for further training after they have started their businesses. The duration of training will depend on the kind of area or vocational skills they are interested in. (P9)

This implies that EE is being perceived as a way to develop the general and the specific human capital of

non-university youths in the sense of upskilling them through continuous training in a specific trade. From all indications, it appears that the EE intervention was useful in providing the participants with access to knowledge, flexibility and the practical experience that had led to their interest in modifying the entrepreneurship curriculum to serve the particular needs of non-university youths. This is revealing in that it feeds into the wider narrative of EE as a flexible model that can easily be modified and embedded in the general education framework for the provision of entrepreneurial knowledge and skills for self-employment (Oketch, 2007).

The idea of using a different entrepreneurship curriculum to sensitize non-university youths to the idea of self-employment, as well as the use of continuous training to support their entrepreneurial career, resonates strongly with Jamieson's (1984) three-level framework for EE impact. This includes education 'about' enterprise, which focuses on developing awareness and understanding of entrepreneurship; education 'for' enterprise, which focuses on providing the practical skills for entrepreneurial activity; and education 'in' enterprise, which emphasizes the importance of business growth through continuous learning. Apart from Jamieson, the provision of 'continuous training' struck a strong chord with Henry and Leitch (2005[AQ10]: 101), who argue that EE should provide scope for improving and monitoring people's entrepreneurial learning processes. The idea of monitoring people's entrepreneurial success is captured by one of the participants:

We have been doing that. So, in terms of tracking and impact, it is only those who have shown serious interest about going into business we are trying to keep track of. (P7)

However, the perception that non-university youths could be offered a different entrepreneurship curriculum as a way to create an entrepreneurship career path for them indeed marks an important departure from previous entrepreneurship and EE studies. This finding can be attributed to the participants' changing attitudes towards their own professional competence and their increased productivity following the EE intervention. Through the intervention, it was obvious that they had not only enhanced their knowledge about how to modify the curriculum to accommodate the needs of diverse learners but also had raised their awareness of how they could expose students to EE by contributing to curriculum design at the institutional level. Accordingly:

Sincerely speaking, our contributions to the new university [of Maiduguri] curriculum were drawn from our experience and interactions at University of Wolverhampton regarding entrepreneurship curriculum design. And this is what the students are being exposed to.' (P10)

At a less substantial yet important level, EE provision is being perceived as a way to influence learners to consider self-employment as a career choice. P9 asserted:

‘I am very happy that the students are beginning to rethink. So changing students’ mindsets about paid employment is the one thing I know we have seriously gained.’

By implication, the logical outcome is that students can be influenced to use the education and practical business skills they have gained through exposure to EE to identify and pursue opportunities that may not be visible to others (Ucbasaran et al., 2008; Shane and Venkataraman, 2000), harmonize the planning and marketing skills required to exploit those opportunities (Baum et al., 2001; Chell, 2013; Frese et al., 2007), and thereby develop their entrepreneurial self-efficacy, which is seen as essential to entrepreneurial success (Bullough et al., 2014; Boyd and Vozikis, 1994). Entrepreneurial self-efficacy is predicated on the notion of people’s self-belief in their capability to tackle the challenges associated with setting up and managing a new business (Drnovšek et al., 2010). This notion is clearly relevant to the participants’ view that EE should be made available to both university and non-university youths. This availability is important since individuals with early exposure to EE tend to show a higher degree of entrepreneurial intention (Volery et al., 2013), particularly when they are exposed to different approaches to learning entrepreneurship. Johansen and Schanke (2013: 440) believe that early exposure to EE leads to a ‘demystification’ of entrepreneurship and self-employment as a career.

With these findings comes the possibility that compulsory teaching of entrepreneurship in secondary schools may help to better prepare young people in SSA for the challenges associated with self-employment, particularly those who cannot afford the high cost of HE. EE provision at secondary school level will also allow young people to make more informed and precise choices about an entrepreneurship career in a way that otherwise they might not have been able to do. Taken collectively, and from a human capital perspective, the overarching perception seems to be that individuals with wider entrepreneurial knowledge and skills, gained through EE and training, are far more likely to succeed in their entrepreneurial pursuit because, thanks to those advantages, they will have the flexibility to deal with issues that arise as their business develops (Welter and Smallbone, 2010) – including issues that were not foreseen at the time of setting up the business (Cooper et al., 1994). Based on the above perspectives, it may be argued that compulsory EE as part of the secondary school curriculum is more likely than not to help reduce the problem of youth unemployment and its consequences. As Henry et al. note, ‘individuals will benefit from learning an innovative approach to becoming self-employed by developing their creativity through the study of entrepreneurship’, even

under challenging conditions of poverty, unemployment and conflict (Henry et al., 2005a [AQ11]: 101).

Concluding remarks

The main purpose of this study was to use the outcome of recent EE projects in two HEIs as a proxy to determine the effect of widening the provision of EE. Given the need to tackle the youth bulge phenomenon that links youth unemployment to conflict in SSA, understanding the effect of EE through curriculum change is vital for the creation of much-needed opportunities for young unemployed people to acquire entrepreneurial knowledge and skills for self-employment. The emphasis on providing EE to young people in secondary education is consistent with the work of Birdthistle et al. (2007), which highlights the importance of mainstreaming EE at a pre-HE level but also in the wider context of the SDGs’ emphasis on teaching entrepreneurship at all levels of education (United Nations, 2015a). Besides, the provision of EE to non-university youths could help to facilitate the human capital development essential to productivity, curb youth unemployment and reduce young people’s vulnerability to poverty and conflict. In this light, the study contributes to the fields of EE and human capital at various levels of research analysis and policy endeavour. First, it points to the similarities between EE and the components of human capital needed for entrepreneurial success, and through this provokes deeper questions about the relevance of EE vis-à-vis TVET in post-independent SSA. In terms of implications for research, future studies could undertake a comparative analysis to establish the extent to which EE and TVET contribute to the human capital stock that acts as the exogenous variable for entrepreneurial success among youths in SSA.

Second, it emerged from the findings that individuals who possess entrepreneurial knowledge and skill through exposure to EE are more likely to achieve entrepreneurial success. However, previous studies have often been based on the general assumption that entrepreneurial success through EE is mostly suited to HE students (Karimi et al., 2016; Rauch and Hulsink, 2015). This study provides evidence to support the argument that EE should not be limited to HE. EE helps to develop both the general and the specific human capital essential to the entrepreneurial process, enabling opportunity recognition and exploitation and the strategic harmonization of the competencies required for opportunity exploitation, as well as providing a basis for continuous learning.

Third, although from the findings there was a willingness to modify the EE curriculum to accommodate the needs of diverse learners, from a human capital perspective it appears that many of the EE tools required to identify, pursue and exploit opportunities and to manage the entrepreneurial process are similar across different learner groups. For instance, education in the form of ‘upskilling’

can act as a vital source of momentum for the acquisition of entrepreneurial knowledge and skills needed to harmonize specific competencies for opportunity exploitation and entrepreneurial success in a particular area of business activity. The core question, however, relates to the value of EE in meeting the entrepreneurial skills needs of diverse learners at different educational levels. From a policy standpoint, establishing such value may not be as important as ensuring that any EE curriculum is designed to heighten the individual's productivity, self-reliance and perceived entrepreneurial self-efficacy – the key underlying features of entrepreneurial success (Bullough et al., 2014; Drnovšek et al., 2010).

As the findings show, lack of adequate resources may be a hindrance to providing knowledge and skills needed for entrepreneurial success, particularly in relation to the delivery of EE to non-university students. Policy makers must therefore ensure that adequate resources are made available to develop teachers' capabilities to provide the education and training at secondary level in order to better prepare and equip young people with the skills required for entrepreneurial success. This provision could take the form of a bite-sized standalone subject, integrated as a compulsory topic in other disciplines as seen in secondary schools in some Scandinavian countries (Johansen and Schanke, 2013). Also, there seems to be a willingness among teachers to modify the EE curriculum in order to support and accommodate the skills needs of non-university youths as a way to provide them with access to entrepreneurial knowledge and skills and so to encourage them to take up an entrepreneurial career. Given the complexity associated with influencing others to pursue an entrepreneurial career, it is not surprising that those entrusted with such responsibility must themselves be trained in the provision of such assistance. This study has shown that, when teachers are exposed to the appropriate EE pedagogies and methodologies through a knowledge transfer process, they are better able and willing to provide such assistance. Policy makers should therefore respond by developing national schemes and incentives to encourage educators to enhance their professional competence and practice through continuing professional development programmes.

In conclusion, in addition to the short-term policies highlighted above, the real challenge is to devise long-term strategies that will ensure a more coherent and sustainable system that puts EE centre-stage in national policies associated with secondary education – particularly in Nigeria, where EE is compulsory at the HE level. Among other things, designers of long-term policy initiatives for Nigeria might consider:

- reviewing and upgrading national strategies for universal basic education to include EE;
- budgetary allocations for reviewing and upgrading the secondary school curriculum;

- investment in youth-centred EE programmes (e.g. national reward and recognition for youth innovation);
- investments in developing human capital, including through CPD (e.g. reskilling and upskilling of secondary school teachers for effective EE delivery);
- creation of progressive EE pathways from secondary schools to HE; and
- investments in academic–industry partnerships to enhance the visibility and value of EE across the education and business sectors.

In other SSA countries (e.g. Rwanda) where entrepreneurship has been introduced at a secondary education level, there is evidence of significant success in terms of higher levels of interest among non-university youths in entrepreneurial activities (Honeyman, 2016). In the absence of the short- and long-term policy commitments suggested above, coupled with the government's inability to enable access for all young people to education that provides the knowledge and skills for self-employment, youths in Nigeria, and indeed in other countries in SSA, will continue to be burdened with an endless cycle of poverty, unemployment and conflict.

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