



## Examining the level of entrepreneurship education and development within the South African higher education: towards entrepreneurial university



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### ABSTRACT

*In response to unemployment and socio-economic challenges in the South Africa's higher education institutions introduces entrepreneurship education (EE) with the aim to create sustainable job opportunities. However, higher education (HE) struggles to integrate EE within the university programmes and make it as practical as possible. Furthermore, fostering entrepreneurial mindset and intentions among students is not an easy task. The primary objective of this conceptual paper is to examine the level of entrepreneurship education and entrepreneurial intentions among the students within the South African higher education. We used qualitative case study methodology, to purposive select 30 articles using a google scholar search engine. The paper was driven by three research questions, namely, what is the level of entrepreneurship education among students in South African higher education? What are the entrepreneurial intentions of these students? Does the design of the EE curriculum foster students' entrepreneurial mindset and intentions? The findings identified a need to curriculum transformation that integrate EE across various disciplines; not just a stand-alone module that fails to foster a broad-based entrepreneurial mindset. Furthermore, the findings shows that policy support and infrastructural development should be geared towards the growth and sustainability of EE programs and launching of innovation hubs and other support structures within universities to provide practical EE experiences.*

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## Introduction

This conceptual paper reports on how the South African Higher Education has become an entrepreneurial university; and how diversified they become in the implementation of Entrepreneurship Education. Entrepreneurship Education has become a common module in entrepreneurial university, and the launching of Entrepreneurship Hubs and spinoff activities. There is a dearth of literature in South Africa that examines the level of entrepreneurship education and related activities that classified the university as a entrepreneurship university.

Countries with best Entrepreneurship Education (EE) has high opportunities to venture into entrepreneurship activities and businesses with ease due to adequate levels of entrepreneurial business competencies. Researchers believe that EE is a panacea for unemployed graduates and other challenges faced by the South Africa people (Ramchander, 2019). Furthermore, developing countries that invest in EE, have better tools to address the triple social ills namely poverty, unemployment and low economic activity and development that torment them. Maheshwari, Kha & Arokiasamy (2023: 1903) put it in perspective when they argue that entrepreneurship is “a critical contributor and an economic engine in a country for creating new jobs and it is crucial for graduates to alter their mind-set to become self-employed”. A country that is serious about its “sustainable socio-economic growth, it must give credence to

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entrepreneurship education” (Nnaemeka, & Osuji, 2022: 1). This study supports, Musetsho and Lethoko (2017) who reiterate that EE is the building blocks towards the “21st-century skills, knowledge and inventive traits that are necessary for improving people’s socioeconomic well-being”.

Thaba-Nkadimene (2020) identifies three challenges facing South African youth, namely, “a lack of job opportunities for job seekers, difficulties in entering labor markets and inadequacies in entrepreneurial development and support spaces that are needed for entrepreneurial success”. We strongly believe that the South African economy which is characterized by a larger share of the informal market, can mushroom at the face of prevailing challenges, through equipping school-going children, and youth in and out of universities with necessary tools to venture into entrepreneurship activities. Musara and Nieuwenhuizen (2020: 194) argue that “the informal economy plays an integral role in addressing the socio-economic issues facing many nations around the world”. EE curriculum fosters students’ learning experience which is important to develop entrepreneurship and business competencies (Nnaemeka & Osuji, 2022). A need to teach design thinking that exposes students to ideation processes with subsequent entrepreneurial intentions can only happen through the integration of EE curriculum within basic and higher education. The adoption of EE by universities amidst a need to inculcate entrepreneurship intentions calls for continuous discourses and deliberate action that can transform the existing programs to give a lee way to EE curriculum integration (Musetsho & Lethoko, 2017).

The study aimed at contribution to the body of knowledge of entrepreneurship education in higher education, and the significance of the integration of EE in the university programmes. *The primary objective of this conceptual paper is to examine the level of entrepreneurship education and entrepreneurial intentions among the students within the South African higher education.* The study answers the research questions, ‘what is the level of entrepreneurship education and entrepreneurial intentions among the students within the South African higher education? Does the design of the EE curriculum foster students’ entrepreneurial intentions and interest as well as entrepreneurial competence?’

## Literature Review

### Positioning the researchers

In giving a perspective from an afore discussion, we have obligation to position ourselves as researchers and academia. Both of us, served at different universities and colleges, that includes University of Limpopo, Durban University of Technology, South African Wildlife College, among others, and we observed EE approached from different angles, and no one university was closer to achieving entrepreneurial university, in its real sense of a word. Etzkowitz’s triple helix model stresses the addition of economic development through laboratory results; in addition to traditional university missions, namely education and research (Feola, Parente & Cucino, 2021).

A systematic literature review showed that universities are increasingly dedicated to the commercialisation of knowledge. The results include three clusters, namely entrepreneurial universities’ that focused on changes in the university paradigm; academic entrepreneurship with commercialisation of knowledge; and creation of Technology-Based Companies that focused on spin-off creation (Mascarenhas, Marques, Galvão & Santos, 2017).

In our memory lane, we are aware that EE is a stand-alone module at DUT, and that it fully supported by EE structures such as ‘Innobiz and Innovation Hub’ in each campus. The DUT Strategic Map further prescribes that the EE need to be embedded within the curriculum structure of all undergraduates’ programmes. DUT prescribes for “innovative curriculum and research- that provide curricula that stimulate creativity and innovation to generate new knowledge and solutions” (DUT, 2020: Picture 2). And our experience of working at the University of Limpopo, reflects that is either EE is still at the infancy stage, or non- existing except that EE is the module in the Business Studies and Entrepreneurship modules. However, the university’s vision statement captures contrary statement. In this statement, the university highlights that “the university’s vision is "to be a leading African University focused on the developmental needs of its communities and epitomizing academic excellence and innovativeness” (University of Limpopo, 2024: Par 1).

As researchers we strongly believe that a well-designed and a supported EE curriculum can positively change students’ entrepreneurial intentions and interests and fosters their attainment of entrepreneurship competencies. Our believe is in line with

Purwanto, A. (2022), 58)’s study that a well-designed and supported “creative product competence and entrepreneurship have a direct positive effect on entrepreneurial interest. In the same study the EE integrated teaching factory program, was found to have a “direct positive effect on the competence of creative and entrepreneurial products”.

In giving a perspective from an afore discussion, we obligation to position ourselves as researchers and academia, two of us serve at Durban University of Technology (DUT) and one at the Limpopo University. And we are aware that EE is a stand-alone module at DUT, and that it fully supported by EE structures such as ‘Innobiz and Innovation Hub’ in each campus. The DUT Strategic Map further prescribes that the EE need to be embedded within the curriculum structure of all undergraduates’ programmes. DUT prescribes for “innovative curriculum and research- that provide curricula that stimulate creativity and innovation to generate new knowledge and solutions” (DUT, 2020: Picture 2) And one colleague from University of Limpopo, declares that the university is still at the infancy stage, where entrepreneurship education is the module in the Business Studies and Entrepreneurship modules. However, it also promises to be move ahead to fulfil its goal, that is set at the university’s vision statement. This statement highlights

that “the university's vision is "to be a leading African University focused on the developmental needs of its communities and epitomizing academic excellence and innovativeness" (University of Limpopo, 2024: Par 1).

### ***Prospects of International EE status***

“There is a universal belief that enterprising education ought to be directed towards practical teaching and re-training of students to expand the entrepreneurial know-how of students towards originality and innovativeness” (Agbo, (2023: 1066). Igbokwe-Ibeto, Agbodike and Osakede (2018) confirm that EE has potential to address graduate unemployment within African States.

On the other hand, On the other hand, Sawahel (2024) reports that on graduate unemployment in Morocco, and stresses that reports shows that a quarter (25,9%) is affected.

In the study conducted by Agri and Sunny (2023) on the responsiveness of EE in addressing youths’ unemployment and graduate employability in the era of digital economy” the study suggests that “Nigerian youths should focus on digital and entrepreneurship skills; using digital entrepreneurship to promote sustainable development, employment, income, creating partnerships to scale youth unemployment solutions”. This recommendation is also applicable to unemployed youth and unemployed graduates in South Africa, other African States and global community that experience such challenges. The same study was able to elicit factors that are important when addressing youth unemployment and unemployed graduates.

- i. job creation using digital skills is the most effective way to reduce unemployment and poverty;
- ii. education and training and enabling environment respectively can reduce unemployment and poverty;
- iii. improved infrastructural development; and
- iv. offering unemployment stipends and welfare packages for the poor.

Countries with best Entrepreneurship Education (EE) has high opportunities to venture into entrepreneurship activities and businesses with ease due to adequate levels of entrepreneurial competencies. Researchers believe that EE is a panacea for unemployed graduates and other challenges faced by the South Africa people (Ramchander, 2019, Terrance, 2023).

### ***Entrepreneurship university (EU)***

Entrepreneurship university (EU) offers entrepreneurial education (EE) that promotes a platform for innovation; creates a value system; and develops entrepreneurial culture needed to drive wealth creation through promotion of innovations. On the other hand, EE offers an educational opportunities and mechanisms that support behaviours, attributes and competencies required in the cultivation of graduate attributes that aimed at impacting student career prosperity (QAA, 2018). Apart from its impact on behaviours, attributes and competencies, EE is known for its positive influence on job opportunity generation. Research shows that entrepreneurship development is a crucial aspect of economic growth through its involvement in “identifying opportunities and utilizing resources to create new businesses that meet customer needs, and generate employment opportunities” (Kumar, 2023, Par 1). Entrepreneurship development plays a vital role in creating new job opportunities-about 50% and 80% in most high- and low-income countries retrospectively and establishes small and medium-sized enterprises (SMEs) (Kumar, 2023).

### ***The status of Entrepreneurship University and Education in South Africa***

The entrepreneurial and business prosperity of South Africa with high youth unemployment and low youth educational qualifications, requires EE that can bridge a divide between entrepreneurial academic knowledge and societal requirements (Suguna, Sreenivasan, Ravi, Devarajan, Suresh et al. 2024).

Durban University of Technology in South Africa, it is similar to the Iranian higher education, and it has introduced ‘an entrepreneurial university’ as a strategy used to promote the quality of entrepreneurial education within the university (Heydarian, Najafabadi, Lashgarara & Mirdamadi, 2021). Turning universities into entrepreneurial university was impeded by challenges in “academic, distance, operational, human, management, strategic, political, and cultural” factors. (Heydarian, et al. 2021: 2561).

Furthermore, counties that invest in EE, have better tools to address the triple social ills tormenting developing countries, such as South Africa, namely, poverty, unemployment and crime, through improved economic development and growth. Maheshwari, Kha & Arokiasamy (2023: 1903) puts it in perspective when they argue that entrepreneurship is “a critical contributor and an economic engine in a country for creating new jobs and it is crucial for graduates to alter their mind-set to become self-employed”. A country that is serious about its “sustainable socio-economic growth, it must give credence to entrepreneurship education” (Nnaemeka, & Osuji, 2022: 1). In support, Musetsho and Lethoko (2017) reiterate that EE is the building blocks towards the “21st-century skills, knowledge and inventive traits that are necessary for improving people's socioeconomic well-being”.

EE curriculum has capacity to foster students learning experience that is important to develop entrepreneurship and business competencies (Nnaemeka & Osuji, 2022). A need to teach design thinking that exposes students to ideation processes with subsequent entrepreneurial intentions, can only happen through the integration of EE curriculum. The adoption of EE by universities amidst a need to inculcate entrepreneurship intentions results with the amendments to existing programmes due to EE curriculum integration (Musetsho & Lethoko, 2017).

Unlike the other parts of Africa and other parts of the world, EE is a much newer area in South African higher education's curriculum. Similarly, Jordan's entrepreneurship education is also at its infancy stages of development, and its offerings are limited to a few introductory modules embedded with small business management modules (Alakaleek, 2019). However, other universities in South Africa are already in the advance stages of the EE implementation.

## Methodology

The study interrogated 30 articles and 20 were local; and search was guided by three concepts, namely entrepreneurial education, entrepreneurial intentions and entrepreneurial university from the period 2016 to 2024. We used qualitative case study methodology, to purposive select 30 articles using a google scholar search engine. In a total of 52 articles that were firstly selected using google scholar; 22 were discarded because they were not meeting criteria in addressing entrepreneurial education, entrepreneurial intentions and entrepreneurial university. Thirty (30) articles were examined and interrogated to understand the level of entrepreneurship education and entrepreneurial intentions in South African higher education. The same articles were used to understand trends and models of entrepreneurial education, entrepreneurial intentions and entrepreneurial university within South African higher education landscape.

## Findings

Three main findings that emanates from are discussed below.

### *The South African Higher Education landscape and Entrepreneurial University*

"Modern universities in the USA and EU are becoming open innovation systems by attracting venture capital in the research and development sphere, increasing patenting and licensing of research results, enhancing the scientific and teaching staff mobility, creating incubators, science parks, university departments, as well as investing in startups" (Mascarenhas, Marques, Galvão & Santos, 2017: 316).

Mascarenhas et al (2017) conducted a literature review to establish past and future trends entrepreneurial university. In the main, universities were found increasing [patenting and licensing, and its impact in business and economic development. Unlike the other parts of Africa and other parts of the world, EE is a much newer area in South African higher education's curriculum. Similarly, Jordan's entrepreneurship education is also at its infancy stages of development, and its offerings are limited to a few introductory modules embedded with small business management modules (Alakaleek, 2019). Although EE is at its developmental stages, other South African universities are already in the advance stages of the EE implementation.

As researchers we strongly believe that a well-designed and a supported EE curriculum can positively trigger a spark of interest and confidence needed to change students' entrepreneurial intentions and fosters their attainment of entrepreneurship competencies. Our believe is in line with

Purwanto, A. (2022), 58's study that a well-designed and supported "creative product competence and entrepreneurship have a direct positive effect on entrepreneurial interest. In the same study the EE integrated teaching factory program, was found to have a "direct positive effect on the competence of creative and entrepreneurial products".

### *EE has a potential to address human demise of hunger, poverty and inequality.*

When graduates and ordinary people experience cycles of poverty that was inherited from parents, then there is a need to question the objective and existence of liberative politics, from colonial and apartheid trenches. Liberative politics should have re-instated the blacks and returned what was stolen from them, and in particular land. The demise of the black South Africans rests on democratic government failure to craft policies and legislation that focus on the redistribution of economic resources such as land and mining rights, to their rightful owners without compensation. The land was supposed to be reallocated among the South Africans, for variety of uses, such as arable agricultural land, mining, construction and residential. The policies and legislative framework should facilitate black people ownership, of land for various reasons.

education, and particular higher education. Education was referred to as a tool to unblock job opportunities and good living, and if it loses these tastes, then it means something is wrong, and citizens, policy makers and education practitioners need to go back to a drawing board. It is a duty of education, specifically higher education to offer sustainable development and good livelihood. To address the quadrable challenges facing South Africa, namely, poverty, unemployment, crime and inequality, entrepreneurship education should run from basic to higher education. We support Ncanywa (2019) that recommends that higher education should offer EE that has a potential to drive economic growth and development. EE development is the project of the Department of Higher Education and Training (DHET) that prescribes EE to all public higher education (Ncanywa, 2019).

A success to EE lies with institutional and government support, in ensuring learning environment that is inclusive and accommodative. However, issues raised by Francis and Webster (2019), that 'power reproduces inequality. on one important factor

that do not support progress in addressing South African demise of living in poverty, its government failure to address re-distribution of economic resources that perpetuate inequality among previously disadvantaged black South Africans. Instead, a phenomenon of instead perpetuating it, its failure. The South African government fails to address the high levels of inequality, because those in power, do not pay attention to “the way power reproduces inequality” (Francis and Webster (2019: 788).

### ***Entrepreneurial intentions***

In the study that was conducted eleven (11) years ago in South Africa by Viviers, Solomon and Venter (2013: 1), it was found that ‘many students, however, reported low levels of awareness in terms of the existence of entrepreneurship offerings’ In the 2020 study conducted in Kwa-Zulu Natal Province in South Africa, entrepreneurship education was found to be influenced by four factors, namely, “the quest to create sustainable employment, the need for independence and self-development, the quest to use one’s knowledge and search for financial security and finally to take risks and challenge oneself” (Nsahlai, Zogli, Lawa & Dlamini, 2020; 1).

Nurturing entrepreneurial intention has potential on “increased innovative activities, wealth creation, industrialization, employment generation, economic growth, and development” (Amofah, Saladrighes & Akwaa-Sekyi (2020: 1). In Amofah et al (2020) the study they found entrepreneurial self-efficacy to have a great influence on students’ entrepreneurial intentions, among factors such as locus of control and environmental control.

As researchers, we are aware of studies that determined the factors that influences entrepreneurial intentions. Furthermore, we strongly believe that intention leads to action or behaviour. However, research that identified the existence of a gap, between entrepreneurial intention and behaviour that hinders the entrepreneurial trainees to translate their intentions into business development and sustainable (Tsou, Steel & Osiyevskyy, 2023). Tsou et al. (2023: 1)’s exposes a downswing of twenty percent gap, from 37% to 17% of figure for entrepreneurial intention; and a need to overcome the “non-trivial intention–behavior gap” as well as a “discovery on cognitive and behavioral factors reinforcing the intention–action translation”.

Furthermore, we are aware that there is no consensus on the meaning and factors that affect entrepreneurial intentions. In lieu of that, we adopted Gorgievski, Stephan, Laguna and Moriano (2018) definition of entrepreneurship intentions as the desire and the commitment to become a business owner in the future.

In the literature, numerous definitions of EI do not seem to converge. In light of that, the views of Crant (1996) on EI are adopted, showing it as the desire and the commitment to become a business owner in the future. Previous studies (Gorgievski et al. 2018) classified entrepreneurship as planned behaviour because it requires an intention to occur; this is probably why the TPB by Ajzen (1991) is so prevalent in entrepreneurship studies

### ***Business Studies and a choice of Entrepreneurship as a career***

We strongly believe that intentions coupled by knowledge can influence business development and its sustainability. We support Ajayi (2021: 244) findings that Business Studies influences the career choices of learners to become entrepreneurs. Ajayi further argues that the choice is “strengthened by the knowledge, skills and experience acquired from entrepreneurship as a segment in Business Studies”.

### **Fostering entrepreneurial intentions and mindset as informed by Experiential Learning Theory**

Based on challenges alluded from introduction to the findings, on the implementation of Entrepreneurship Education (EE) in South African higher education, we use Kolb (1984) experiential learning theory (ELT) to propose experiential learning model that will foster sustainable job opportunities through EE by cultivating an entrepreneurial mindset among students. We tailored experiential learning theory within the South African context, that stresses the curriculum integration with practical experiences with the aim to promote entrepreneurial intentions and mindset. The focus of the Experiential learning theory is learning through experience, reflection, and the application of theoretical knowledge to real-world situations (Kolb, 1984). WE found this theory to be relevant and responsive to South African higher education’ EE which requires business innovation and development practical skills that emanates from entrepreneurial intentions and mindsets needed to address youth unemployment and unemployment in general.

This proposed experiential learning theory for the implementation of EE in the South African higher education emphasizes the importance of integrating practical experiences into the EE curriculum. The ELT provides concrete experiences, encouraging abstract conceptualization, promoting active experimentation and facilitating reflective observation that South African higher education can foster an entrepreneurial intentions and mindset among students.

### ***Concrete Experience***

Concrete experiences serve as the foundation of learning. For South African higher education, this involves providing students with real-world entrepreneurial experiences. And experiential learning requires invest in human and physical infrastructure, such as adequate staffing, resources and innovation hubs that Tewari, Ilesanmi and Serpa (2020) found to be a weak link to a success of academic projects. Universities should establish innovation hubs, startup incubators, and entrepreneurship labs where students can engage in hands-on activities. For instance, the Durban University of Technology (DUT) has embedded EE within its curriculum and

supports these initiatives through structures like the Innobiz and Innovation Hub (DUT, 2023). These platforms enable students to develop and test business ideas, engage with real customers, and navigate entrepreneurial challenges.

### **Abstract Conceptualization**

Abstract conceptualization entails forming theories and models based on reflections. In EE, students should be encouraged to conceptualize business models, strategies, and solutions to real-world problems. This step integrates academic knowledge with practical experiences, allowing students to develop a deep understanding of entrepreneurship. Courses should include case studies, simulations, and project-based assignments that require students to apply their conceptual knowledge. For example, analyzing successful startups and developing business plans based on these insights can be highly beneficial (Cope, 2011). While student abstract conceptualisation is important, educators' conceptualization is a neglected area; although their task to teach entrepreneurial behaviour that promotes entrepreneurial intentions, mindset and competencies. According to Al Kharusi, Bell and Kasem (2023: 339) "there is the potential disconnect between educators' discourse and conceptualization of entrepreneurship in their teaching practice and the actual practice of entrepreneurship

Educators' conceptualization of entrepreneurship in Omani entrepreneurship education practice. *Entrepreneurship Education*, 6(4), 339-364.

### **Active Experimentation**

Active experimentation refers to a situation when students can apply new concepts, knowledge and skills to new situations. Research shows that "experiential learning has been recently used as an approach for entrepreneurial education as it contributes to a positive impact on entrepreneurial intention and to the development of entrepreneurial skills and competences (Motta & Galina, 2023: 1). And this application requires a created spaces their business ideas in a welcoming and supportive environment. Universities has a duty to create such spaces in the form of entrepreneurship competitions, market days and community projects where students can apply their learning. Their engagement in these practical endeavours offers required business skills and builds confidence and resilience. Universities need mentorship programs and partnerships with industry that further supports students with required support and resources to experiment and refine their entrepreneurial ventures (Rae, 2012).

Motta, V. F., & Galina, S. V. R. (2023). Experiential learning in entrepreneurship education: A systematic literature review. *Teaching and Teacher Education*, 121, 103919.

### **Reflective Observation**

According to Hinett (2002: 1) "reflection is about maximising deep and minimising surface approaches to learning." (Hinett, 2002: Par 1). Reflective thinking can be used "as a counterbalance to action for developing entrepreneurial knowledge" (Hägg, 2017: 1). Reflective observation involves reflecting on concrete experiences with the aim to derive insights. To make reflective observation a norm among EE students, they need to be encouraged to keep reflective journals to serve as a tool for their active reflective participation in debriefing sessions after their practical engagements. These reflections help students understand their experiences, identify successes and failures, and analyze why they occurred. This process is crucial for internalizing entrepreneurial concepts and developing critical thinking and creative and innovative skills. EE facilitators should use reflection observation through guiding discussions and providing feedback that will help students connect their experiences to theoretical frameworks (Kolb, 1984).

### **Integration of Experiential Learning in EE Curriculum**

To effectively integrate experiential learning in the EE curriculum, a holistic approach is required, that considers curriculum design, policy support and industry collaboration.

**EE curriculum design** should be embedded across all disciplines, not just as a standalone module. This ensures that all students, regardless of their major, develop entrepreneurial competencies. The curriculum should be dynamic, incorporating the latest industry trends and technologies (Jones et al., 2017).

**With policy support**, government and institutional policies should support EE initiatives through funding, infrastructure, and incentives. Policies should facilitate the creation of innovation hubs and support structures within universities (Nicolau et al., 2018).

**Promoting industry collaboration requires universities to** partnerships with industry are crucial for providing real-world exposure. Universities should collaborate with businesses to offer internships, mentorships, and joint projects (Pittaway & Edwards, 2016).

**Continuous EE curriculum transformation and improvement requires universities to** regularly review and update its curriculum based on feedback and emerging trends. Continuous EE curriculum transformation and improvement ensures that the curriculum remains relevant and effective in fostering an entrepreneurial mindset (Hägg & Kurczewska, 2019).

## **Discussion**

This aspect offers a discussion of key findings emanating from literature review, and examination of the selected cases.

### **There are challenges with EE Integration in higher education**

The paper shows challenge that South African higher education institutions are faced with when implementing EE programmes. In the main a lack of support structures and mentoring as well as systematic challenges to EE integration. For instance, Durban University of Technology (DUT) and other universities-initiated steps in factoring EE into their strategic maps and creating innovation hubs. However, many other universities remain spectators and others are still at the initial stages of EE development. Other university's EE efforts are limited to Business studies or Business Management, whereas others introduced a fully fledged EE modules; that are theoretical instead of addressing practical issues of solving socio-economic issues in South Africa. The disparity in EE integration across universities points to a systemic issue that requires addressing both at the institutional and policy levels. Higher education institutions must prioritize EE by embedding it across all disciplines, ensuring that students from various fields gain entrepreneurial competencies. Moreover, the government should incentivize EE initiatives through funding and policy support, encouraging universities to adopt a more entrepreneurial approach.

### **Entrepreneurial intentions and mindset**

There are several factors that influence entrepreneurial intentions among the South African students: namely a quest for independence, financial security, and self-development. Furthermore, a gap exists that denies willing students to translate these intentions into actual entrepreneurial behaviour. Research shows that this gap support and mentoring systems and inadequate practical exposure and support systems that foster entrepreneurial skills and confidence. There is a need for universities to bridge such a gap through the student exposure to experiential learning pedagogy that bridges a theory and practice gap, through the use of theoretical knowledge in real-world contexts. Initiatives such as startup incubators, mentorship programs, and entrepreneurial competitions can provide students with hands-on experience and a supportive environment to test and refine their business ideas.

### **Impact of EE Curriculum Design**

To achieve a required level of students' entrepreneurial intentions, mindsets and competencies; there is a need for a well-researched and well-designed and fully supported EE curriculum that aligns well into the curriculum. Research shows that a well-thought and aligned EE coupled by the integrated EE approach has potential to fosters a culture of innovation and entrepreneurship among students. The EE curriculum needs to expose students to critical, creative problem-solving and real-world issues; that will improve the student's probability of starting sustainable SMEs. On the other hand, those universities with EE programmes have responsibility to ensure adaptations to EE curriculum through continuous curriculum development that is in line with ever changes in the entrepreneurial landscape. This indicates that universities should adhere to a call for a regular curriculum review processes that improves students learning experiences, as well as inclusion of the latest industry trends, technological advancements, and best practices. University-industry collaboration is a strategy that universities should embrace if they are going to produce successful entrepreneurs who possess valuable insights on entrepreneurial activities and industry they want to service.

### **Positioning EE as a catalyst and potential in addressing socio-economic challenges**

The findings identify EE as a catalyst and having a potential in addressing socio-economic challenges. Research displays EE as a hope to address socio-economic challenges such as poverty, unemployment, and inequality in South Africa. This is possible if students' intentions and mindsets are transformed; and this will improve students' level of confidence.

The government's role in supporting EE initiatives is critical to realizing this potential. Policies that promote entrepreneurship, provide funding for startups, and facilitate access to resources can create an enabling environment for young entrepreneurs. Additionally, integrating EE from basic education through to higher education ensures a continuous and comprehensive development of entrepreneurial competencies, preparing students to tackle socio-economic challenges effectively.

## **Conclusions**

The integration of EE in South African higher education is essential for fostering entrepreneurial intentions and competencies among students. Despite the challenges, universities like DUT have demonstrated the positive impact of well-designed EE curricula. To fully realize the benefits of EE, it is imperative that universities adopt a holistic approach, embedding EE across all disciplines and providing robust support systems. Moreover, the potential of EE to address socio-economic challenges underscores the need for concerted efforts from both educational institutions and the government. By creating an enabling environment for entrepreneurship, South Africa can harness the entrepreneurial potential of its youth to drive economic growth and development. *Recommendations of the study are :*

- i. Strengthen EE Integration through curriculum transformation. This calls for universities to integrate EE into all undergraduate programs, ensuring that students from various disciplines acquire entrepreneurial competencies.
- ii. EE should adopt experiential learning approach and promotes collaboration with internships, project-based learning, and entrepreneurial competitions to provide practical exposure and enhance students' entrepreneurial skills.
- iii. Universities should provide support structures, such as innovation hubs and mentorship programmes. Each university needs to establish innovation hubs and support centers within universities to nurture entrepreneurial skills and provide resources

for startups. Furthermore, universities should launch mentorship programs that connect students with experienced entrepreneurs and industry experts, offering guidance and support throughout their entrepreneurial journey.

- iv. Lastly industry collaboration and government incentives is required to cause the cause for EE in South Africa. University-industry collaboration wherein a space is created for EE students to collaborate with industry experts and successful entrepreneurs to provide a learning experience, valuable insights and the practical application of the curriculum that is needed for a success of the EE programs.

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