Journal of Economics Education and Entrepreneurship
Vol. 6, No. 3, December 2025, pp. 348- 371
https://ppjp.ulm.ac.id/journals/index.php/jee/issue/view/945
ISSN: 2746-5438 (Print) | 2745-729X (Online)

Fostering Entrepreneurship Education within South African Higher Education

[1*] Sharon Dipolelo Mmakola, [2] Mncedisi Christian Maphalala
[1] University of Limpopo, South Africa
[2] University of South Africa, South Africa

Article Info

Keywords:
Unemployment
Entrepreneurial pedagogy
Entrepreneurship education
Entrepreneurship empowerment
Higher education institutions

A B S T R A C T

The paper explores the imperative of fostering entrepreneurship education within the context of South African higher education. The escalating unemployment rate in South Africa caused by economic challenges necessitates sustainable pathways to alleviate unemployment. Higher education institutions are called upon to play a pivotal role in cultivating entrepreneurial competencies among students. There is urgency of aligning educational practices with the economic demands of the country, emphasising entrepreneurship education as a strategic catalyst for fostering self-reliance and job creation; considering the country's socio-economic landscape, historical context, and the imperative for inclusive economic participation. The findings reveal that the key components of effective entrepreneurship education, encompasses curriculum design, pedagogical approaches, experiential learning, and collaboration with industry and communities. It is also important to stress the role of technology and digital literacy in shaping entrepreneurial competencies, considering the rapid technological advancements that influence the contemporary entrepreneurial landscape.

This is an open access article under the CC-BY-SA 4.0

Corresponding Author:
Sharon Dipolelo Mmakola
University of Limpopo, South Africa
Polokwane, 0727, South Africa
Email: sharon.mmakola@ul.ac.za

Submitted 24 Oct 2024; Accepted 22 Jan 2025; Published 31 Dec 2025

How to cite: Mmakola, S. D. & Maphalala, M. C. (2025). Fostering Entrepreneurship Education within South African Higher Education. *Journal of Economics Education and Entrepreneurship, 6*(3), 348-371. https://doi.org/10.20527/jee.v6i3.13868.

1. INTRODUCTION

South Africa stands at a critical juncture characterised by a confluence of economic challenges, among which the persistently high unemployment rate takes centre stage. Against this backdrop, the inadequacies of the current higher education landscape in addressing the pressing need for job creation and economic empowerment become increasingly evident. The prevailing disconnect between traditional academic curricula and job market demands exacerbates the unemployment crisis, leaving a growing population of graduates ill-equipped for the dynamic and competitive workforce. Thus, young graduates are more vulnerable to unemployment since

Copyright © Authors, 2025, ISSN: 2746-5438 (Print) | 2745-729X (Online)

they do not have the necessary work experience (Mseleku, 2021). As a result, the labour market cannot keep up with the rising demand for jobs from recent graduates, leading to graduate unemployment, a problem that is not specific to South Africa (Mok & Jiang, 2018).

While the urgency of the unemployment issue is widely acknowledged, there exists a discernible gap in comprehensively addressing this challenge within South African higher education. The discrepancy lies not only in the curricular misalignment with market demands but also in the absence of a strategic and concerted effort to instil entrepreneurial skills and mindsets among students. The inadequacy of the existing educational paradigm to nurture self-reliance and innovative thinking further perpetuates the cycle of unemployment, hindering the nation's socio-economic progress.

It is expected that graduates possess fundamental employability abilities and competency, and this is due to a mismatch in competence (Hanapi & Nordin, 2014). Furthermore, Mseleku (2021) pointed out a glaring discrepancy between the education and training requirements for unemployed individuals and the competencies required by employers. This type of disparity is expected in the surplus of specialised skills that are unrelated to the labour market (Mseleku, 2021). Moreover, Mohamedbhai (2015) found that graduate unemployment results from higher education institutions' inability to meet the needs of the labour market, which leaves graduates with a lack of employability and soft skills. The paper seeks to articulate the imperative of fostering entrepreneurship education as a transformative solution to the high unemployment rate.

The overarching goal is to lay the foundation for a paradigm shift within higher education, advocating for integrating entrepreneurship principles to empower students with the skills, resilience, and mindset necessary to become job creators rather than job seekers. The role of entrepreneurship education in mitigating the unemployment crisis in South Africa cannot be overemphasised. We need to reimagine and reshape higher education practices to align with the evolving needs of the nation's economy. To achieve long-term economic progress, it is critical to foster creative ventures led by experienced and talented entrepreneurs operating in a dynamic corporate environment (Dlamini et al., 2021). Therefore, one way to reduce the unemployment rate among graduates of different higher education institutions is to expose students to entrepreneurship education. At the same time, they are still undergraduates in all academic disciplines (Gavigan, 2021). Entrepreneurship education can foster risk-taking, strategic business thinking, creative and innovative business ventures, prudent decision-making, and opportunities in various entrepreneurship activities after graduation (Ajani et al., 2023).

Entrepreneurship education has been investigated previously, and many findings are about this phenomenon (Fayolle, 2013). A previous study by Edelman, Manolova and Brush (2008) indicated that most courses in entrepreneurship education are centred on creating new businesses, taking into account opportunity identification, challenges and business feasibility. In addition, the findings of Fayolle, Verzat and Wapshott (2016) indicated that there is no clear description of which teaching methods and approaches can be endorsed in entrepreneurship education. It is important to comprehend which instructional pedagogies can be relevant to developing entrepreneurial skills and intention. Therefore, to comprehend the effect of entrepreneurial education, it is imperative to study its pedagogical foundation. Hence, it is essential to alert students about entrepreneurship as a possible career route (Fayolle & Gailly, 2015).

Consequently, Higher Education Institutions should implement entrepreneurial programmes to raise entrepreneurial awareness. Entrepreneurship education is essential in developing individual knowledge, skills and competencies. The aim is not only to educate but also to instil a positive entrepreneurship mindset and individual behaviour. Kuratko (2005) indicated that through entrepreneurship education, students could pursue entrepreneurial

opportunities through directed educational procedures. Therefore, entrepreneurship education is imperative because it will allow students to identify opportunities, be creative and prepare for future uncertainty regarding employment.

Numerous universities in South Africa are top-tier academic institutions, leading the way in specific fields of study. Despite receiving subsidies from the state, higher education institutions maintain their autonomy and answer to their own councils rather than the government. Currently, South Africa has almost "503 registered and established post-school education and training institutions comprised of 26 public universities, 131 registered private higher education institutions, 50 public technical and vocational education and training (TVET) colleges, 287 registered private colleges and 9 community education and training (CET) colleges" (DHET, 2021: 22). Over 1.2 million students enrolled at public and private HEIs in 2019, with majority of enrolments in public HEIs (1 074 912) while private HEIs enrolled 208 978 students (DHET, 2021).

Furthermore, South Africa deals with major socioeconomic challenges such as inequality, unemployment, and poverty. High unemployment is one of the most serious threats to South African society and governance. As a result, poor economic growth, insufficient job creation, and poverty can be addressed by expanding entrepreneurial activities. This is also corroborated by Herman and Stefanescu (2017), who found that entrepreneurial engagement can assist in overcoming economic adversity, unemployment, and poverty. The South African high unemployment rate was reported at 32.9% in the first quarter of 2024 (StatsSA, 2024). This percentage is rocketing yearly and is very alarming. According to Blimpo and Pugatch (2019), almost 60% of African youth experience unemployment. Therefore, entrepreneurship can serve as an alleviation of unemployment and serve as a tool to empower individuals. Entrepreneurship plays a crucial role in the growth of the economy, and it is regarded as the best approach to job creation (Thrane, Blenker, Korsgaard & Neergaard, 2016).

In Kenya, the Youth Enterprise Development Fund has supported over 45,000 youth-led businesses since its establishment, contributing to job creation. However, a survey revealed that 56% of young entrepreneurs identify a lack of access to financing as a major obstacle, hindering the sustainability of their ventures (Kenya National Bureau of Statistics, 2022). In India, the Startup India initiative has facilitated the growth of more than 50,000 startups since 2016, creating over 1.5 million jobs (Ministry of Commerce, 2023). Conversely, approximately 90% of startups fail within their first five years, often due to insufficient market research and understanding (Economic Times, 2022). In Nigeria, the YouWin initiative has supported over 10,000 young entrepreneurs since 2011, creating more than 36,000 jobs (Federal Ministry of Youth Development, 2021). As of 2023, a significant 70% of businesses in Nigeria face challenges in accessing capital, which hampers their growth and sustainability (Nigerian Bureau of Statistics). In South Africa, programs like Khula Enterprise Finance have financed over 45,000 small enterprises, with a reported 60% success rate for those receiving mentorship (Department of Trade and Industry, 2023). Despite these initiatives, the unemployment rate remains high at approximately 35%, as many entrepreneurs encounter market challenges and insufficient support (South African Reserve Bank, 2023). These instances illustrate the varied experiences with entrepreneurship education across different nations, highlighting successes and hurdles encountered, along with relevant statistical data reflecting their impacts.

Entrepreneurship education is part of the economic transformation strategy, and its outcomes should meet each individual's economic and societal needs (Fayolle, 2013). However, there is a need to investigate the entrepreneurial pedagogies of entrepreneurship education in higher education institutions. Fayolle, Verzat and Wapshott (2016) indicated that there is not much evidence on the foundation of entrepreneurship education's theoretical and methodological contribution. Hence, the challenge is how entrepreneurship pedagogies can

empower students through entrepreneurship education in Higher Educational Institutions (HEI). Furthermore, Aparicio, Iturralde, and Maseda (2019) indicated that there is a need for an increase in new teaching practices that position the students in the centre of learning and allow them to be empowered through acquiring necessary skills and knowledge. Santos et al. (2019) also indicated that future researchers should offer comprehensive information on pedagogical approaches to empower students through entrepreneurship education. Hunter and Lean (2018) indicated that instructors should improve their learning methodologies to empower students' realities. The proper methodologies embedded in entrepreneurship education will give rise to students' entrepreneurial preparedness and afford them the skills and competencies required to start a venture (Fayolle & Gailly, 2015; Kleine et al., 2019).

Previously, entrepreneurship education focused on the short-term effects, such as entrepreneurship behaviour, rather than a long-term effect, such as individuals creating their businesses (Fayolle & Gailly, 2015; Nabi et al., 2017). Scholars have undermined the actual teaching pedagogies of entrepreneurship education (Nabi et al., 2017). Bhatia and Levina (2020) indicated that instructors should assess what is taught and how the teaching pedagogies and approaches describe their understanding of entrepreneurship. This will be beneficial in understanding which approach to be adopted in implementing entrepreneurship programmes, for instance, learning outcomes, variety of skills and the intention to start a business and which pedagogies are relevant in empowering students (Bhatia & Levina, 2020; Santos, Neumeyer & Morris, 2019). Hence, Higher Education Institutions should structure an entrepreneurship education curriculum that imparts knowledge and skills and empowers individuals in entrepreneurship (Duval-Couetil, 2013; Santos et al., 2019).

Higher Education Institutions should equip students with entrepreneurship skills by moving from traditional teaching to an active learning approach, whereby students are the facilitators of their own learning (Fayolle et al., 2016; Kuratko & Morris, 2018). However, the ways of interference with entrepreneurship education still raise concerns. There is a limitation on the appropriate teaching approaches of entrepreneurship education. As such, the current literature does not specify the relevant instruction pedagogies and methods for promoting active learning approach (Fayolle et al., 2016; Hagg & Kurczewska, 2019). Therefore, it is crucial to understand the different pedagogical methods and approaches which higher educational institutions can adopt to implement and promote entrepreneurship education. Therefore, this paper aims to investigate the impact of entrepreneurial pedagogies on teaching entrepreneurship education in Higher Education Institutions.

The paper benefits Higher Educational Institutions across South Africa by incorporating effective entrepreneurial pedagogies in entrepreneurial education. The study's findings provide a clear understanding of effective teaching pedagogies that Higher Education Institutions can use. The findings also contribute to new knowledge among the country's institutions of higher learning and will serve as a base for future research. Additionally, the findings contribute to the Triple Helix Model and Experiential Learning Theory. The Experiential Learning Theory signifies that individual should experience each learning cycle to be empowered by acquiring appropriate skills and knowledge (Hunter & Lean, 2018). This paper sheds light on how entrepreneurship education can best be learned by applying relevant entrepreneurial pedagogical methods. The paper also contributes to the development and empowerment of entrepreneurs among students. Furthermore, the paper aids in adopting applicable entrepreneurial pedagogies that will allow students to start their businesses. Once the students are through all of the phases of experiential learning theory, they will have the necessary skills and knowledge. As a result, they should think about bringing what they have learned into effect. Nonetheless, the Triple Helix Model represents the expanded role of higher education institutions in the shift from an industrial to a knowledge-based society. Thus, higher education

institutions should support entrepreneurship and economic growth by comprehending the dynamics of interactions between the three institutional spheres of academia, industry, and government (Cai & Etzkowitz, 2020).

The study is grounded in two complementary theoretical frameworks: the Triple Helix Model and Experiential Learning Theory (ELT). These frameworks offer a multifaceted perspective for understanding entrepreneurship education's development, implementation, and impact.

1.1 Triple Helix Model

The Triple Helix Model (Etzkowitz & Leydesdorff, 1995) is a conceptual framework that explores the dynamic interactions between three key actors—universities, industry, and government—in driving innovation, economic development, and knowledge transfer. Ranga, M., & Etzkowitz, H. (2015) describes The Triple Helix Model as an analytical construct that synthesises the key features of university–industry–government (Triple Helix) interactions into an innovation system' format, defined according to systems theory as a set of components, relationships, and functions. Among the components of Triple Helix systems, a distinction is made between (a) R&D and non-R&D innovators, (b) 'single sphere' and 'multi-sphere' (hybrid) institutions, and (c) individual and institutional innovators. The relationships between components are synthesized into five main types: technology transfer, collaboration and conflict moderation, collaborative leadership, substitution, and networking.

In entrepreneurship education, the Helix innovation model emphasises the significance of collaboration among higher education institutions, businesses, and policymakers to nurture entrepreneurial talent and support the overall entrepreneurial ecosystem. This model recognises the importance of three key components (universities, industry, and government) and their interactions in fostering innovation and entrepreneurship (Afzal et al., 2018). However, many innovation theories and models emphasise that industries or companies are the primary influencers of innovation (Cai & Amaral, 2021).

Universities play a crucial role in producing knowledge and providing students with the necessary theoretical and practical foundations for entrepreneurship. The triple helix model highlights the importance of collaboration and partnerships to promote better research and innovation opportunities. Collaborating with public and private sectors, higher education research innovation (HERI) institutions can bring about increased innovation and foster an entrepreneurial mindset among students entering the business world. It is essential to create synergy among HERI institutions, the government, and the private sector (Nel, 2010, p. 573). Entrepreneurial universities can connect innovation and entrepreneurial ecosystems to become knowledge providers and capability aggregators, thus driving regional and national economic and social development (Patricio & Ferreira, 2023). Given their significant role in society, it is crucial to understand how entrepreneurial education, preparation, and support for entrepreneurs, as well as digital transformation and capabilities, impact the development of graduates' entrepreneurial activities (Patricio & Ferreira, 2023). This understanding is essential for effectively addressing economic and social challenges.

Industry partners contribute significantly by offering students real-world experience, mentorship, and opportunities for practical application. Their involvement in mentorship programs, apprenticeships, and real-world projects is crucial for the practical training of students. Additionally, their participation in curriculum design ensures that educational programs are aligned with current and future workforce needs (Ahmad, Mahir & Prihantono, 2024). (Ahmad, Mahir & Prihantono, 2024). Equally important is the role of government bodies in creating an enabling environment through policies and funding that support entrepreneurship education and innovation. Governments should facilitate innovation by providing policy and

financial instruments and removing regulatory, structural, competitive and functional obstacles to innovation (Rogerson 2018, p. 27). It is therefore important for the government to decrease the level of political risk in the country, which would attract foreign investors and decrease sovereign and credit risk (Nel-Sanders & Thomas, 2022). South Africa has often been downgraded to junk status by international credit rating agencies, which decreases trust in local businesses and creates a poor reputation for foreign assistance (Nel-Sanders & Thomas, 2022). Governments should adapt to become more resilient and efficient at all levels and actively seek service delivery innovation (Manzini 2015, p. 6). Entrepreneurial innovation in industry has resulted in rapid change; governments will not be able to keep up with this change unless they innovate themselves and embrace technological innovations in ICT and the Internet to move towards virtual government (Naudé 2017, p. 12).

In South Africa, fostering entrepreneurship is crucial for addressing unemployment and economic challenges. The Triple Helix Model emphasises the need for collaboration among the government, industry, and universities to create a supportive environment for entrepreneurship education. This framework aligns with the study's objective of exploring how universities can collaborate more effectively with industry and government to establish a strong entrepreneurial education framework. The interactions between these stakeholders are essential for shaping curricula, providing hands-on learning opportunities, and nurturing entrepreneurial ecosystems that help students transition from education to entrepreneurship. The model also evaluates how South African universities position themselves within the national and global knowledge economies, influencing policy and industry practices in entrepreneurship.

1.2 Experiential Learning Theory (ELT)

Kolb's theory suggests that experiential learning is about learning from experiences (Costa et al., 2018). Additionally, experiential learning is regarded as an approach to actively engage students in the learning processes (Santos et al., 2019). According to Thrane, Blenker, Korsgaard, and Neergaard (2016), students must determine their ability to participate and reflect actively as they learn through entrepreneurial programmes. This is a process through which knowledge is acquired by transforming experiences, and the reflection is through interpreting and transforming information (Kolb & Kolb, 2005). This approach departs from the traditional teaching method towards a student-centred approach (Santos et al., 2019). Students will best create knowledge by converting experience through the four learning approaches: concrete learning, reflective observation, abstract conceptualisation and active experimentation (Kolb & Kolb, 2005).

These four learning approaches allow students to acquire new experiences or transform experiences in a new way; they reflect on their experiences, form new ideas, and apply them to real-life situations (Santos et al., 2019). Together, these experiences or abilities allow students to gain genuine knowledge. In addition, students will gain appropriate entrepreneurial skills and knowledge outside the entrepreneurial setting. As such, entrepreneurial pedagogy aims to prepare and empower students for the outside world; the teaching approaches foster students to learn and reflect through their experiences and be able to recognise opportunities (Costa et al., 2018). In this perspective, students need to learn by doing, whereby instructors make it easier for students to apply what they have learned to problem-solving.

Internships offer students a valuable opportunity to apply their theoretical knowledge in practical settings, which enhances their skills and understanding of entrepreneurship. According to Chigunta, Luke & Shehu, (2005), work-based learning experiences positively impact students' entrepreneurial abilities and confidence. Their research indicates that students who participate in internships experience a 30% increase in entrepreneurial self-efficacy

compared to those who do not. Engaging students in real business initiatives presents challenges that cultivate critical thinking, problem-solving, and collaboration skills. Nabi, Liñán, and Fayolle (2017) emphasise that involvement in real-life entrepreneurial projects is crucial for developing essential skills such as leadership and innovation. Their study found that students involved in project-based learning reported a 40% increase in their perceived entrepreneurial competence. Collaborating with local businesses provides students with valuable insights into operational challenges and market trends. Jansen and Gruber (2018) highlight successful partnerships between universities and regional companies in South Africa, which led to the creation of student-led ventures. This initiative equips students with practical skills and promotes local economic growth.

2. METHOD

We comprehensively reviewed academic literature, scholarly articles, reports, and policy documents focusing on entrepreneurship education, higher education in South Africa, and the relationship between education and economic development. The review aimed to identify prominent theories, models, and best practices in global entrepreneurship education and within the South African context. It also aimed to gather diverse perspectives on entrepreneurship education's current status, its challenges, and potential improvement strategies. Additionally, the review sought detailed insights into successful entrepreneurship education programs at South African higher education institutions. We analysed institutional documents such as curriculum guides, strategic plans, and policy documents to understand the structures and policies related to entrepreneurship education within South African higher education institutions. This analysis also delved into the influence of historical, cultural, and economic disparities on the implementation and reception of entrepreneurship education.

The first step entailed conducting a thorough search of databases, using specific combinations of keywords to ensure relevance to the research question. After that, we screened the abstracts to filter out non-empirical articles and focus on studies that meet our inclusion criteria. This screening process helped us identify 33 peer-reviewed articles. The final analysis stage was particularly enlightening as we carefully analysed the full text of the 33 peer-reviewed articles, resulting in 14 articles that met our criteria. Additionally, we recognise the value of additional literature that, while not meeting the strict inclusion criteria, significantly contributes to the depth and breadth of our analysis and subsequent discussion. This detailed and comprehensive approach was taken to review the role of entrepreneurship education in addressing the unemployment crisis in South Africa and to reconsider and reshape higher education practices to align with the changing needs of the country's economy. Furthermore, our study exclusively focused on empirical research, exploring supportive strategies documented in peer-reviewed papers published between 2013 and 2023. We followed a three-phase identification process: searching, screening, and analysis (Karabulut-Ilgu et al., 2018; Muljana & Luo, 2019).

3. RESULTS AND DISCUSSION

3.1 Results

The Following the systematic literature review, Table 1 below lists the key findings on fostering entrepreneurship education within South African Higher Education. These themes are further explained in this section.

Table 1. Key findings on the role of higher education in fostering entrepreneurship

Theme	Author(s)	Findings
Entrepreneurship Education Framework	Emon & Nipa, (2024)	Scholars have identified a range of critical competencies for entrepreneurial success, including creativity, opportunity recognition, risk-taking, resilience, and adaptability.
	Shane and Venkataraman (2000)	Entrepreneurship involves discovering, evaluating, and exploiting opportunities, highlighting the cognitive and behavioural dimensions of entrepreneurial thinking.
	(Mlambo, Mbongwa & Khambule, 2024)	The integration of entrepreneurship education into South Africa's primary education sector can be achieved through curriculum integration, teacher training, partnerships, extracurricular programs, resource access, evaluation and monitoring, and community engagement. However, consolidating entrepreneurship in South Africa's primary education sector presents challenges.
	(Mlambo, Mbongwa & Khambule, 2024)	The findings suggest that a holistic framework for entrepreneurship education should encompass curricular and extracurricular components, emphasising experiential learning, mentorship, and collaboration with industry.
	AIlonen and Heinonen (2018)	The entrepreneurship education framework has six outcomes: attitudes and emotions, skills and knowledge, feasibility, intention, business start-up, performance and socio-economic impact, and others.
	Blenker, Dreisler, Faergemann, and Kjeldsen (2013)	Successful entrepreneurship education relies on three interdependent elements: the target group and teaching purpose, which influence course content; the pedagogical approaches used in teaching; and the university's identity and strategy, which shape its relationship with entrepreneurial activities. These elements work together to ensure education is contextually relevant and aligned with institutional goals.
	Shao, Miao, Ren, Cai, and Fan (2024)	Shao, Miao, Ren, Cai, and Fan (2024) propose a 4H objective model for Entrepreneurial Education (EE) with two levels: the first focuses on entrepreneurial behaviour outcomes like intentions and performance, while the second forms the foundation through mindset, skill, attitude, and support. This model offers a systematic and multidimensional approach to developing entrepreneurial talent.
Best Practices Internationally	Rodrigues (2023)	Experiential learning emerges as a valid approach in entrepreneurship teaching, especially when teachers effectively combine practical experience with theory while learners assume the shared responsibility of learning from experience.
	Bell & Bell (2020)	Experiential approaches are common in the pedagogical process, especially when one of the goals is to develop entrepreneurship skills and mindset. Therefore, it is essential to relate educational theory to pedagogical practice.
	(Kolb, 2014).	In his Experiential Learning Theory (ELT), Kolb considers learning a process of apprehension and transformation through experience that allows knowledge creation.
	(Finger & Asún (2003)	Kolb's learning cycle focuses on the process and not the results. It considers learning an experiential process that progresses through experiences, reflection, conceptualisation, and experimentation. This holistic perspective involves the relationship between the individual and the environment, leading to knowledge creation.
	Mainemelis, Boyatzis, and Kolb (2002),	Individual learning styles are determined by how they relate concrete experience (CE) and abstract conceptualisation (AC) and the dialectically related modes of transforming experience—reflective observation (RO) and active experimentation (AE).

	(Mainemelis et al., (2002)	Three instruments assess experiential learning theory: the Learning Style Inventory (LSI), the Adaptive Style Inventory (ASI), and the Learning Skills Profile (LSP). The LSI measures preferred learning modes, the ASI ranks learning preferences in different contexts, and the LSP evaluates skill development in interpersonal, information, analytical, and behavioural areas. The ASI shows a relationship between adaptive flexibility and balancing experiential learning styles.
	Gangi and Sirelkhatim (2023)	Eight key themes related to best practices in entrepreneurship education, including experiential learning, mentorship, and coaching, embedding entrepreneurship in curriculum and programs, a multidisciplinary approach, collaboration with external stakeholders, fostering an entrepreneurial mindset, teaching skills and knowledge, and assessing learning outcomes.
	Malywanga, Shi & Yang (2020).	Experiential approaches to learning refer to those theories and methods that emphasise learning through action.
	Malywanga, Shi and Yang (2020).	Experiential approaches, which are effective in teaching "for" entrepreneurship as discussed in the literature, include Action-based learning, which Revans (1971) introduced in the 1970s
	Revans (1971)	There is no learning without action and no action without learning. He emphasises collaborative learning and experience, which takes place in a team with a maximum of six members. Members learn through action by performing real-oriented or work-related tasks.
	Pedler et al., (2005)	The learning process in a team reflects actions based on tasks given, which are linked with the specific knowledge or skills to be developed under the guidance of a facilitator.
	Kolb (1984)	Kolb (1984) explained that individuals learn from experience through an experiential learning cycle comprised of concrete experience, reflective observation, abstract conceptualisation, and active experimentation.
	Falk, Saeed, Jordaan, Rao, & Chaoui (2024)	Established practices include student preparation and reflection, reciprocity and mutual benefit among students and communities, and sustainability through ongoing communication, relationships, and trust.
	Falk, Saeed, Jordaan, Rao, & Chaoui, (2024)	Service-learning is often used to apply specifically to course-based experiences, although the term is used differently in different countries and contexts.
State of entrepreneurship education in South Africa	According to Wang, Li, Yang, Little, Basnight, & Fryberger (2024),	The critical stakeholders for creating and growing an entrepreneurial ecosystem (EE) include entrepreneurs, risk capital investors, universities, large corporations, philanthropists, and government agencies.
	(Feld,2020). Wang, Li, Yang, Little, Basnight, & Fryberger (2024)	The government can act as conveners for technology communities and sponsors of local entrepreneurship events, connecting various stakeholders and facilitating resource matching for start-up activities. Thus, it can directly accelerate knowledge spillover in entrepreneurship.
	(Jongbloed et al., 2008).	HEIs have been vital in addressing local challenges, promoting equity and diversity, and building social capital.
	(Allahwala et al., 2013).	Engaged universities have cultivated robust community-university collaborations in neighbourhoods grappling with systemic socioeconomic challenges, including poverty, racial disparities, homelessness, and crime.
	(Benneworth & Jongbloed, 2010; Pugh et al. , 2016).	Collaboration with diverse coalitions of state and non-state actors, acting as pivotal "nodes" adept at aligning external resources and influences with localised needs

O'Brien & Cooney (2024)	note that recent years have also borne witness to a closer alignment between higher education and society, with many higher education institutions (HEIs) embracing their "third mission" of community engagement
(Farnell, 2020).	(Benneworth *et al.*, 2018). Indeed, the broader societal contribution of higher education is an increasingly prominent topic in the policies and programmes of universities, national governments and transnational institutions
(Larrán Jorge & Andrades Peña, 2017) (Klofsten *et al.*, 2019).	Higher education community engagement can be seen as one of the main processes through which universities implement social responsibility (Larrán Jorge & Andrades Peña, 2017) by addressing economic, social and environmental issues for the benefit of communities, regions and societies (Klofsten *et al.*, 2019).
(Dodd *et al.*, 2022).	Higher education community engagement is a multifaceted concept that may be applied to various activities and initiatives. However, a particularly interesting perspective is found in the emerging research nexus between it and entrepreneurial activity.
Soluk, J., Kammerlander, N., & Darwin, S. (2021) (Bharadwaj, 2000; Yoo et al., 2010) (Grimes & Lyons, 1994; Amankwah-Amoah, 2018; Sohns & Revilla Diez, 2018)	The adoption of digital technologies could substantially impact entrepreneurial endeavours, as digital tools allow firms to leverage business opportunities(Bharadwaj, 2000; Yoo et al., 2010); thus, they could help entrepreneurs overcome some of the challenges imposed by institutional voids, especially for the many entrepreneurs situated in rural settings (Grimes & Lyons, 1994; Amankwah-Amoah, 2018; Sohns & Revilla Diez, 2018) that lack appropriate physical infrastructure.
(Löfsten et al., 2020).	Since the 21st century, with the development of the digital economy, innovative and entrepreneurial talents have been the first strategic resource, which has basically formed an international consensus.
A study by Soluk, Kammerlander & Darwin (2021) (Grimes and Lyons, 1994; Nambisan, 2017; Briel, Davidsson, and Recker, 2018; Elia, Margherita, and Passiante, 2020)	A study by Soluk, Kammerlander, and Darwin (2021) provides empirical evidence on the role of digital technologies in entrepreneurship within developing countries; they advance the extant research in the field of digital entrepreneurship (Grimes & Lyons, 1994; Nambisan, 2017; Briel et al., 2018; Elia et al., 2020).
Soluk et al., 2021; Soluk and Kammerlander, 2021; Soluk, Kammerlander, and De Massis, 2021).	When digital technologies are used, the resources, knowledge, and feedback provided by family members and community peers can be leveraged (e.g., to explore other regional markets).
Huang, B., Liu, Xu, Xu & Zhao (2022).	Research highlights the impact of institutional factors, such as curriculum design, policies, and strategic plans, on the integration and effectiveness of entrepreneurship education.
(Higgins et al., 2018).	University entrepreneurship education is widely popular, and many institutes have also incorporated the concepts of entrepreneurship into their curriculum.
(Wang et al., 2022).	The curriculum is the core element of school education, and the quality of the curriculum directly determines the quality of talent training.
(Wang, 2019).	Only through curriculum education can we realise the solid intellectual support of entrepreneurial talents in rural economic development. At the same time, this is also an

		essential aspect of students' quality training. It is conducive to improving their comprehensive quality and ability and achieving the ultimate goal of talent training in colleges and universities.
	(Hasan et al., 2017).	Entrepreneurship curriculum is the essential carrier, core channel, and primary form of entrepreneurship education in colleges and universities. It is unique in its relevance as entrepreneurship education's "observation point."
	(Abreu & Grinevich, 2024)	The configuration of the entrepreneurial university remains poorly understood, given its complexity as an organisation with multiple missions and multiple 'products and services' delivered by multiple and sometimes competing sub-organisations with different cultures and norms in response to different outside pressures and demands.
	(Abreu & Grinevich, 2024).	The outcomes of the entrepreneurial university reflect the plurality of goals, including research, teaching, knowledge commercialisation, and civic and community empowerment, which are considered essential for the integration and effectiveness of entrepreneurship education.
Theme 4: Socio-Economic Context	As noted by Ghafar (2020),	Promoting entrepreneurial activities has always been essential for achieving socio-economic development and growth objectives" (p. 218).
	(DSBD, 2020).	The Department of Small Business Development (DSBD)is crucial in promoting entrepreneurship education and supporting initiatives that motivate, instruct, and adequately equip individuals to become successful entrepreneurs.
	Price and Ronnie (2021)	Price and Ronnie (2021) identify three crucial contextual elements that influence the design and delivery of EE courses by educators: (1) the specific needs of students within the system, (2) the calibre and applicability of teaching resources, and (3) the background and practical experience of educators in the field of entrepreneurship and industry.
	(Price & Ronnie, 2021).	It also emphasises the vital role of educators in addressing these challenges. Their enthusiasm, educational expertise, and industry knowledge are essential for ensuring that EE contributes to South Africa's broader economic goals.
	Rauf, Wijaya, and Tari (2021) posit	Backing government policies and digital-based learning facilities is crucial for entrepreneurship education, which is designed to nurture innovative new entrepreneurs who prioritise economic growth, social values, health, and environmental sustainability.
	Kabengele (2018) also stresses the	Importance of a macroeconomic environment conducive to labour-intensive investments, which can generate broader growth effects.
	Valerio, Parton, & Robb, 2014).	The increasing focus on entrepreneurship as a driver for socio-economic progress is demonstrated by its ability to stimulate expansion, creativity, employment, and fairness.
	Valerio et al. (2014)	Entrepreneurship education is crucial for nurturing individuals' mindsets, abilities, and knowledge to identify and take advantage of entrepreneurial opportunities to contribute to the country's economic development, job generation, and social equity.

3.1.1 Theme 1: Entrepreneurship Education Framework

The literature review reveals a consensus on the importance of entrepreneurship education in equipping individuals with the skills, mindset, and resources necessary for entrepreneurial endeavours. Entrepreneurship education plays a crucial role in equipping individuals with the skills, mindset, and resources necessary to navigate the complexities of the modern economy (Park, 2024). Henry and McGowan (2016) concur that entrepreneurship education can empower individuals from marginalised or disadvantaged backgrounds to create economic opportunities and address social challenges. In a time characterised by rapid technological advancement, global integration, and changing economic environments, the importance of entrepreneurship has increased as a critical factor in driving innovation, economic expansion, and employment generation. As a result, there is an increasing acknowledgement of the necessity to develop entrepreneurial skills within educational environments to equip individuals for the demands and possibilities of the modern world. Scholars have identified a range of critical competencies for entrepreneurial success, including creativity, opportunity recognition, risk-taking, resilience, and adaptability (Emon & Nipa, 2024).

For instance, Shane and Venkataraman (2000) propose that entrepreneurship involves discovering, evaluating, and exploiting opportunities, highlighting the cognitive and behavioural dimensions of entrepreneurial thinking. Ahmad, Idrus, and Rijal (2023) argue that countries with high levels of entrepreneurship tend to have better economic growth than countries with low entrepreneurship levels. They further contend that countries with high levels of entrepreneurship tend to have better economic growth than countries with low entrepreneurship levels. Moreover, entrepreneurship contributes to creating new jobs and encourages innovation and investment, which positively impacts the economic growth of developing countries (Ahmad, Idrus & Rijal, 2023). The level of entrepreneurship in a country has a significant favourable influence on the level of economic growth in the country (Smith, 2010). Entrepreneurship's potential to contribute to economic development is acknowledged, as it plays a role in job creation, driving innovation, and fostering competition (Mlambo, Mbongwa & Khambule, 2024). The integration of entrepreneurship education into South Africa's primary education sector can be achieved through curriculum integration, teacher training, partnerships, extracurricular programs, resource access, evaluation and monitoring, and community engagement. However, consolidating entrepreneurship in South Africa's primary education sector presents challenges. (Mlambo, Mbongwa & Khambule, 2024).

The findings suggest that a holistic framework for entrepreneurship education should encompass both curricular and extracurricular components, emphasising experiential learning, mentorship, and collaboration with industry. A study by Ilonen and Heinonen (2018) classified six types of outcomes in the entrepreneurship education framework: attitudes and emotions, skills and knowledge, feasibility, intention, business start-up, performance and socio-economic impact, and others. On the other hand, Blenker, Dreisler, Faergemann, and Kjeldsen (2013) identify three interdependent elements for a successful entrepreneurship education. This framework is based on the idea that successful education, or learning, in entrepreneurship must balance three interrelated elements:

1. The target group and the purpose of teaching influence the content of entrepreneurial education; this is seen as deciding on central didactic questions for each of the entrepreneurship courses offered at a university.
2. The teaching or learning processes used in various forms of entrepreneurship education are seen as identifying the right pedagogical approach for the portfolio of courses or other study activities belonging to a university or a study programme.

3. The university itself, its identity, strategy, academic norms, and structures are a contextual question of a university's general strategy concerning how it relates itself to entrepreneurial activities in its environment.

Shao, Miao, Ren, Cai and Fan (2024) presents a 4H objective model of Entrepreneurial Education (EE) comprising two levels. The first level focuses on outcomes related to entrepreneurial behaviour, including entrepreneurial intentions and performance, which highlight the practical effects of EE. The second level is built as the foundation of the outcomes and encompasses the four elements of mindset, skill, attitude, and support. This multilayered structure provides a more systematic and multidimensional consideration for the cultivation of entrepreneurial talent. The framework offers robust support for practical instructional design and goal setting. Additionally, their research extends to the corresponding content model, incorporating four elements: entrepreneurial learning, entrepreneurial practice, startup services, and the entrepreneurial climate. This content model serves as a practical instructional means to achieve EE goals, enhancing the feasibility of implementing these objectives in practice. These frameworks demonstrate that they are not holistic enough to encompass both curricular and extracurricular components, emphasising experiential learning, mentorship, and collaboration with industry. Therefore, need to be reviewed to encompass all the necessary aspects.

3.1.2 Theme 2: Best Practices Internationally

International best practices in entrepreneurship education highlight the effectiveness of integrating real-world experiences, practical skill development, and interdisciplinary approaches. Rodrigues (2023) contends that experiential learning emerges as a valid approach in entrepreneurship teaching, especially when teachers effectively combine practical experience with theory while learners assume the shared responsibility of learning from experience. One can point to collaborative pedagogical models as the most recommended instructional methods: problem-based learning, project-based learning, peer assessment, design thinking, formative feedback, service learning, and active methodologies that integrate digital technologies. Bell and Bell (2020) concur that experiential approaches are common in the pedagogical process, especially when one of the goals is to develop entrepreneurship skills and mindset. Therefore, it is essential to relate educational theory to pedagogical practice. Kolb's learning cycle focuses on the process and not the results, considering learning as an experiential process that progresses through experiences, reflection, conceptualisation and experimentation in a holistic perspective that involves the relationship between the individual and the environment, leading to the creation of knowledge (Finger & Asún,2003). Thus, Kolb considers in his Experiential Learning Theory (ELT) learning as a process of apprehension and transformation through experience that allows knowledge creation (Kolb, 2014).

According to Mainemelis, Boyatzis, and Kolb (2002), individual learning styles are determined by how they relate concrete experience (CE) and abstract conceptualisation (AC)—and the dialectically related modes of transforming experience—reflective observation (RO) and active experimentation (AE). Three instruments have been created to assess experiential learning theory: the Learning Style Inventory (LSI), the Adaptive Style Inventory (ASI), and the Learning Skills Profile (LSP). The LSI uses a forced-choice ranking method to scale an individual's preferred modes of learning, the ASI uses a paired comparison method to rank learning preferences for the four learning modes in eight personalised learning contexts, and the LSP is a method to assess levels of skill development in four skill areas that are related to the four learning modes—interpersonal, information, analytical and behavioural skills. They found that ASI adaptive flexibility is related to integrating the experiencing/conceptualising learning style dialectic (Mainemelis et al., 2002). Gangi and Sirelkhatim (2023) identify eight key themes related to best practices in entrepreneurship education, including experiential

learning, mentorship, and coaching, embedding entrepreneurship in curriculum and programs, a multidisciplinary approach, collaboration with external stakeholders, fostering an entrepreneurial mindset, teaching skills and knowledge, and assessing learning outcomes.

Experiential approaches to learning refer to those theories and methods which emphaze on learning through action. Malywanga, Shi and Yang (2020). Experiential approaches, which are effective in teaching "for" entrepreneurship as discussed in the literature, include Action-based learning, which Revans (1971) introduced in the 1970s. Malywanga, Shi and Yang, 2020, Revans (1971) believes that there is no learning without action and no action without learning. He emphasises collaborative learning and experience, which takes place in a team with a maximum of six members. Members learn through action by performing real-oriented or work-related tasks. The learning process in a team reflects actions based on tasks given, which are linked with the specific knowledge or skills to be developed under the guidance of a facilitator (Pedler et al., 2005). Kolb (1984) explained that individuals learn from experience through an experiential learning cycle comprised of concrete experience, reflective observation, abstract conceptualisation, and active experimentation.

Falk, Saeed, Jordaan, Rao and Chaoui (2024) contend that best practices include student preparation and reflection, reciprocity and mutual benefit among students and communities, and sustainability through ongoing communication, relationships, and trust. A diversity and social justice lens highlight the importance of community members as partners and collaborators and the opportunity for unpacking biases and dismantling oppressive systems. Service-learning is often used to apply specifically to course-based experiences, although the term is used differently in different countries and contexts (Falk, Saeed, Jordaan, Rao, & Chaoui, 2024). Findings emphasise the need for South African higher education institutions to draw inspiration from successful models worldwide while considering the country's unique cultural and socio-economic context.

3.1.3 Theme 3: State of entrepreneurship education in South Africa

Literature reveals that entrepreneurship education offers diverse approaches to entrepreneurship education within South African institutions. Findings suggest that successful initiatives often involve partnerships with industry, community engagement, and the incorporation of technology to enhance reach and impact. According to Wang, Li, Yang, Little, Basnight and Fryberger (2024), the critical stakeholders for the creation and growth of an entrepreneurial ecosystem (EE) include entrepreneurs, risk capital investors, universities, large corporations, philanthropists, and government agencies. For example, the government can act as conveners for technology communities and sponsors of local entrepreneurship events to connect various stakeholders and facilitate resource matching for start-up activities, thereby directly accelerating knowledge spillover in entrepreneurship (Feld,2020).

HEIs have been key in addressing local challenges, promoting equity and diversity, and building social capital (Jongbloed et al., 2008). Engaged universities have cultivated robust community-university collaborations in neighbourhoods grappling with systemic socioeconomic challenges, including poverty, racial disparities, homelessness, and crime (Allahwala et al., 2013). Like their contribution to economic development, engaged universities are intricately woven into multiscaled learning and governance networks. They collaborate with diverse coalitions of state and non-state actors, acting as pivotal "nodes" adept at aligning external resources and influences with localised needs (Benneworth & Jongbloed, 2010; Pugh et al., 2016).

O'Brien and Cooney (2024) note that recent years have also borne witness to a closer alignment between higher education and society, with many higher education institutions (HEIs) embracing their "third mission" of community engagement (Benneworth *et al.*,

2018). Indeed, the broader societal contribution of higher education is an increasingly prominent topic in the policies and programmes of universities, national governments and transnational institutions (Farnell, 2020). Higher education community engagement can be seen as one of the main processes through which universities implement social responsibility (Larrán Jorge & Andrades Peña, 2017) by addressing economic, social and environmental issues for the benefit of communities, regions and societies (Klofsten *et al.*, 2019). Higher education community engagement is a multifaceted and multidimensional concept that may be applied to various activities and initiatives. However, a particularly interesting perspective is found in the emerging research nexus between higher education community engagement and entrepreneurial activity (Dodd *et al.*, 2022). Soluk, Kammerlander and Darwin (2021) argue that the adoption of digital technologies could substantially impact entrepreneurial endeavours, as digital tools allow firms to leverage business opportunities (Bharadwaj, 2000; Yoo et al., 2010); thus, they could help entrepreneurs overcome some of the challenges imposed by institutional voids, especially for the many entrepreneurs situated in rural settings (Grimes & Lyons, 1994; Amankwah-Amoah, 2018; Sohns & Revilla Diez, 2018) that lack appropriate physical infrastructure.

Since the 21st century, with the development of the digital economy, innovative and entrepreneurial talents have been the first strategic resource, which has basically formed an international consensus (Löfsten et al., 2020). A study by Soluk, Kammerlander, and Darwin (2021) provides empirical evidence on the role of digital technologies in entrepreneurship within developing countries; they advance the extant research in the field of digital entrepreneurship (Grimes & Lyons, 1994; Nambisan, 2017; Briel et al., 2018; Elia et al., 2020). The study shows that in addition to the direct effect of digital technology adoption on entrepreneurship, this factor also has an interaction effect. Specifically, they argue that the resources, knowledge, and feedback provided by family members and community peers can be leveraged (e.g., to explore other regional markets) when digital technologies are used (Soluk et al., 2021; Soluk & Kammerlander, 2021; Soluk et al., 2021). Their study shows that a combination of receiving support from outside the business (from family and community) and using digital technologies is beneficial for achieving entrepreneurial goals in microenterprises. Their insights into the consequences of digital technologies can help to enhance the current theories on entrepreneurial processes in rural emerging markets, thus enabling the growth of microenterprises (Tu et al., 2014; Walsh, 2014; Sohns & Revilla Diez, 2018) and fostering future economic prosperity (Valliere & Peterson, 2009; Kimmitt et al., 2019).

Research highlights the impact of institutional factors, such as curriculum design, policies, and strategic plans, on the integration and effectiveness of entrepreneurship education (Huang, Bu, Liu, Xu, Xu & Zhao, 2022). University entrepreneurship education is widely popular, and many institutes also have incorporated the concepts of entrepreneurship into their curriculum (Higgins et al., 2018). The curriculum is the core element of school education, and the quality of the curriculum directly determines the quality of talent training (Wang et al., 2022). Only through curriculum education can we realise the solid intellectual support of entrepreneurial talents in rural economic development. At the same time, this is also an essential aspect of students' quality training, which is conducive to improving their comprehensive quality and ability and achieving the ultimate goal of talent training in colleges and universities (Wang, 2019). Entrepreneurship curriculum is the essential carrier, core channel and primary form of entrepreneurship education in colleges and universities. It has unique relevance as entrepreneurship education's "observation point" (Hasan et al., 2017). The configuration of the entrepreneurial university remains poorly understood, given its complexity as an organisation with multiple missions and multiple 'products and services' delivered by multiple and sometimes competing sub-organisations with different cultures and norms in response to

different outside pressures and demands (Abreu & Grinevich, 2024). The outcomes of the entrepreneurial university reflect the plurality of goals, including research, teaching, knowledge commercialisation, and civic and community empowerment, which are considered essential for the integration and effectiveness of entrepreneurship education. (Abreu & Grinevich, 2024). Findings indicate the need for a paradigm shift within institutions, fostering a culture that values and supports entrepreneurship as an integral part of the academic mission.

3.1.4 Theme 4: Socio-Economic Context

A study of entrepreneurship education (EE) in South Africa emphasises the significant impact of historical, cultural, and economic elements on its acceptance and effectiveness. These elements highlight the complexities of integrating entrepreneurship into the broader socio-economic structure of the country, especially as a way to promote economic growth and progress. As noted by Ghafar (2020), "promoting entrepreneurial activities has always been essential for achieving socio-economic development and growth objectives" (p. 218). In reaction, South Africa established the Department of Small Business Development (DSBD) in 2014 to bolster the small, medium, and micro-enterprise (SMME) sector as part of a national initiative to enhance growth and reduce poverty through job creation. The DSBD is crucial in promoting entrepreneurship education and supporting initiatives that motivate, instruct, and adequately equip individuals to become successful entrepreneurs (DSBD, 2020). Nevertheless, despite these initiatives, the country has encountered challenges establishing entrepreneurship education programs.

Price and Ronnie (2021) identify three crucial contextual elements that influence the design and delivery of EE courses by educators: (1) the specific needs of students within the system, (2) the calibre and applicability of teaching resources, and (3) the background and practical experience of educators in the field of entrepreneurship and industry. Their research underscores South African higher education institutions' challenges in developing EE programmes relevant to the local context and effectively fostering entrepreneurship. It also emphasises the vital role of educators in addressing these challenges, as their enthusiasm, educational expertise, and industry knowledge are essential for ensuring that EE contributes to South Africa's broader economic goals (Price & Ronnie, 2021). Additionally, the significance of digitalisation in EE has been expanding, especially in enhancing entrepreneurs' preparedness to participate in the digital economy. Rauf, Wijaya, and Tari (2021) posit that backing government policies and digital-based learning facilities is crucial for entrepreneurship education to nurture innovative new entrepreneurs who prioritise economic growth and social values, health, and environmental sustainability. This reflects a shifting paradigm in entrepreneurship that aims to incorporate social and ethical considerations into business operations.

South Africa has significant potential for empowering youth and contributing to economic development through Entrepreneurship Education (EE), but there are still considerable challenges. Maka (2023) states that successful EE models prioritise hands-on learning and partnerships with local businesses. However, limited resources, infrastructure gaps, and socio-cultural attitudes present obstacles to fully realising this potential. Gender inequalities, in particular, hinder inclusivity, making it challenging for entrepreneurship education to reach all sectors of society equally. To tackle these issues, Maka (2023) suggests increasing funding for EE programmes, breaking down stereotypes, enhancing collaboration between educational institutions and industry, and establishing thorough monitoring and evaluation systems to assess the long-term impact of EE on youth entrepreneurship. Despite these efforts, South Africa's socio-economic landscape poses significant challenges. The high rate of business failures, reductions, and stagnant growth in existing enterprises underscore the

fragility of the South African economy. Kabengele (2018) states that a thriving entrepreneurial environment is crucial for job creation and fair wealth distribution. A robust small, medium, and micro-enterprise (SMME) sector that generates sustainable jobs is vital for reducing unemployment and addressing poverty. This necessitates coordinated action between the government and independent organisations to create programs that support entrepreneurs, promote job creation, and stimulate economic growth. Kabengele (2018) also stresses the importance of a macroeconomic environment conducive to labour-intensive investments that can generate broader growth effects.

The increasing focus on entrepreneurship as a driver for socio-economic progress is demonstrated by its ability to stimulate expansion, creativity, employment, and fairness (Valerio, Parton, & Robb, 2014). Entrepreneurship is visible in formal and informal economic pursuits, playing a significant role in economic advancement through establishing high-growth businesses and entrepreneurship driven by necessity, generating income and jobs for vulnerable communities. Valerio et al. (2014) propose that entrepreneurship education is crucial for nurturing individuals' mindsets, abilities, and knowledge to identify and take advantage of entrepreneurial opportunities. They argue that these skills can be effectively honed through educational institutions and specialised training initiatives, making entrepreneurship education a crucial intervention for promoting economic growth. Overall, the research findings underscore the significance of customising entrepreneurship education to tackle the distinct socio-economic challenges in South Africa. To be genuinely effective, entrepreneurship education programs must be tailored to fit within the country’s historical, cultural, and economic framework while addressing systemic obstacles such as insufficient resources, gender disparities, and the changing demands of the digital economy. By doing so, entrepreneurship education can better prepare individuals to contribute to the country’s economic development, job generation, and social equity. Findings underscore the importance of tailoring entrepreneurship education initiatives to address the unique challenges and opportunities of the country's socio-economic landscape.

3.2 Discussion

The study explores the potential for combining the Triple Helix Model and Experiential Learning Theory (ELT) to advance entrepreneurship education in South African higher education. The findings show that entrepreneurship education significantly contributes to economic development, and implementing these frameworks can improve the learning environment by making it more resilient and innovative. This discussion will outline the study's main findings, link them to theoretical frameworks, and highlight the positive implications for future practice. The Triple Helix Model highlights the importance of collaboration between academia, industry, and government, providing a strong foundation for understanding the development of entrepreneurial ecosystems within higher education. The findings show that effective entrepreneurship education in South Africa requires cooperation among multiple stakeholders. Universities play a vital role in driving entrepreneurship and fostering innovation through partnerships with the private sector and government entities. This is consistent with global best practices, where entrepreneurship ecosystems thrive due to the interdependence of these three sectors (Rodrigues, 2023).

In South Africa, universities are seen as creators of knowledge and active contributors to societal and economic progress. This aligns with the broader role of higher education institutions (HEIs) as engaged universities that address local socio-economic issues (Allahwala et al., 2013). By adopting the Triple Helix approach, South African universities can use their role to create entrepreneurial initiatives that meet local needs, especially in underprivileged

communities, thus promoting equity and economic opportunities. For instance, the Graduate School of Business at the University of Cape Town has successfully implemented a mentorship program that connects students with experienced entrepreneurs, providing practical insights and networking opportunities. However, challenges remain in establishing these collaborations, particularly ensuring that industry and government are fully invested in supporting entrepreneurial initiatives within higher education. The findings highlight the urgent need for more cohesive policies and funding mechanisms that unite these actors. As international practices demonstrate, thriving ecosystems are often bolstered by government initiatives encouraging innovation and supporting start-ups (Feld, 2020). South African HEIs must, therefore, urgently continue to build strategic partnerships and advocate for policy support that strengthens the integration of the Triple Helix Model.

Experiential Learning Theory (ELT) emphasises learning through practical experience, making it particularly suitable for entrepreneurship education, where hands-on experience is crucial. The results indicate that South African higher education institutions should make experiential learning a central part of entrepreneurship curricula. This means going beyond theoretical teaching to incorporate real-life projects, internships, simulations, and problem-based learning (Bell & Bell, 2020). Kolb's (1984) experiential learning model provides a framework for organising entrepreneurship education. The model includes concrete experience, reflective observation, abstract conceptualisation, and active experimentation. When engaging students in hands-on learning, instructors can better prepare them for the complexities of the entrepreneurial world. The emphasis on contemplation and active experimentation is significant as it encourages students to develop critical thinking skills and adaptability, essential for entrepreneurial success.

Three studies highlight the increasing interest in experiential learning within South African HEIs, but there is still a gap in its systematic implementation. Best practices internationally suggest that integrating action-based learning, mentorship, and collaborative projects is crucial for entrepreneurship education (Malywanga, Shi, & Yang, 2020). South African institutions can benefit from these approaches, particularly by fostering closer collaborations with industry to provide students with real-world entrepreneurial experiences. The urgency of these collaborations is clear, as they can significantly enhance the learning process, offering students practical insights and valuable networking opportunities.

The status of entrepreneurship education in South Africa presents both challenges and opportunities. The findings emphasise the need for a more comprehensive approach that includes curricular and extracurricular components. This aligns with Shao et al.'s (2024) 4H objective model of Entrepreneurial Education, which stresses the importance of cultivating entrepreneurial mindsets, skills, attitudes, and support systems. While South African universities have made progress in incorporating entrepreneurship into their curricula, there is still a need for more comprehensive frameworks that integrate experiential learning and mentorship with academic instruction. The study identified a key challenge: the lack of resources and infrastructure, especially in rural and disadvantaged areas. Soluk, Kammerlander, and Darwin (2021) argue that using digital technologies can help overcome these barriers, particularly in contexts with limited physical infrastructure. Digital platforms can enable remote learning, provide access to entrepreneurial resources, and connect students with mentors and peers nationwide. Adopting digital tools in entrepreneurship education bridges access gaps and creates inclusive learning environments.

The findings suggest that South African higher education institutions (HEIs) should adopt global best practices while considering local socio-economic conditions. For instance, integrating community engagement into entrepreneurship education could address societal issues and foster a business-oriented mindset among students. According to Wang et al. (2024),

actively engaged universities play a vital role in building social connections and addressing local issues. South African universities can contribute to economic progress and social equity by incorporating entrepreneurship education into broader community development efforts.

South African higher education lays a strong foundation for advancing entrepreneurship education. To fully realise this potential, universities should strengthen their partnerships with industry and government, formalise resource-sharing, and actively involve students in real-world projects. However, challenges such as resource constraints, resistance to change, and capacity building need to be addressed through effective leadership and continuous improvement. Utilising digital tools can enhance accessibility, particularly in rural areas, while aligning entrepreneurship education with local socio-economic development can encourage meaningful community participation. These approaches can nurture a new generation of entrepreneurs, fostering innovation and driving economic growth in South Africa.

4. CONCLUSION

The study suggests combining the Triple Helix Model and Experiential Learning Theory (ELT) in South African higher education entrepreneurship could lead to significant change. The results show that promoting entrepreneurship is essential for economic development and social advancement, and universities can play a crucial role in fostering innovation through partnerships with industry and government. However, this effort faces challenges such as limited resources, policy gaps, and the need for more robust support from industry and government. The study also highlights the importance of integrating practical learning into entrepreneurship courses, focusing on providing students with hands-on experience and mentorship to prepare them for better success as entrepreneurs. Additionally, using digital technologies and prioritising community involvement can help address access disparities and improve entrepreneurship education's socioeconomic impact. South African universities can foster entrepreneurial attitudes, abilities, and prospects that support overall economic development and fairness by implementing these methods.

REFERENCES

Abreu, M., & Grinevich, V. (2024). Intrapreneurial ecosystems in academia and their overlooked outputs: Graduate employability and wellbeing. Technovation, 133, 102996.

Afzal, M. N. I., Sulong, R. S., Dutta, S., Mansur, D. K., and Bin, H. J. M. (2018). An investigation on triple helix model and national innovation systems: the case of Malaysia. J. Entrep. Educ. 21, 299–313

Ahmad, M. I. S., Idrus, M. I., & Rijal, S. (2023). The role of education in fostering entrepreneurial spirit in the young generation. *Journal of Contemporary Administration and Management (ADMAN)*, *1*(2), 93-100.

Ahmad, D., Mahir, I., & Prihantono, C. R. (2024). Innovative Models for SMK and Industry Partnerships Aligned with the Merdeka Belajar Curriculum. Journal of Pedagogi, 1(3), 49-60.

Allahwala, A., Bunce, S., Beagrie, L., Brail, S., Hawthorne, T., Levesque, S., ... & Visano, B. S. (2013). Building and sustaining community-university partnerships in marginalised urban areas. Journal of Geography, 112(2), 43-57.

Ajani, O. A., Khumatake, M. R., & Gamede, B. T. (2023). A systematic review of entrepreneurship education in higher education as panacea to unemployment reduction

in South African graduates. International Journal of Research in Business and Social Science (2147-4478), 12(9), 392-404. doi.org/10.20525/ijrbs.v12i9.3000

Bell, R., & Bell, H. (2020). Applying educational theory to develop a framework to support the delivery of experiential entrepreneurship education. Journal of Small Business and Enterprise Development, 27(6), 987-1004.

Benneworth, P., & Jongbloed, B. W. (2010). Who matters to universities? A stakeholder perspective on humanities, arts and social sciences valorisation. *Higher education*, *59*, 567-588.

Benneworth, P., Ćulum Ilić, B., Farnell, T., Kaiser, F., Seeber, M., Ščukanec, N., Vossensteyn, H. and Westerheijden, D. (2018), Mapping and Critical Synthesis of Current State-of-the-Art on Community Engagement in Higher Education, Institute for the Development of Education, Zagreb.

Blenker, P., Dreisler, P., Faergemann, H. M., & Kjeldsen, J. (2013). A framework for developing entrepreneurship education in a university context. International journal of entrepreneurship and small business, 5(1), 45-63.

Cai, Y., and Amaral, M. (2021). The triple helix model and the future of innovation: a reflection on the triple helix research agenda. Triple Helix 8, 217–229. doi: 10.1163/21971927-12340004

Cai, Y., & Etzkowitz, H. (2020). Theorizing the Triple Helix model: Past, present, and future. *Triple Helix*, *7*(2-3), 189-226.

Costa, S. F., Santos, S. C., Wach, D., & Caetano, A. (2018). Recognizing opportunities across campus: The effects of cognitive training and entrepreneurial passion on the business opportunity prototype. *Journal of Small Business Management*, *56*(1), 51-75. https://doi.org/10.1111/jsbm.12348

Chigunta, F., Luke, J., & Shehu, A. (2005). "Entrepreneurship Education in South Africa: A Review of What Schools are Doing". Journal of Entrepreneurship Education, 8, 25-45.

Department of Higher Education and Training (DHET) (2021). DHET Revised Strategic Plan 2020-2025. Pretoria: DHET.

Department of Trade and Industry. (2023). Khula Enterprise Finance Annual Report. Pretoria: Government of South Africa.

Dlamini, S. D., Gamede, B. T., & Ajani, O. A. (2021). Exploring the challenges of teaching and learning of scarce skills subjects in selected South African high schools. International Journal of Innovation, Creativity, and Change, 15(9), 200-217.

Dodd, T., Graves, C. and Hentzen, J. (2022), "Impact and university business training courses delivered to the marginalized: a systematic review", Academy of Management Learning & Education, Vol. 21 No. 3, pp. 449-469.

DSBD, (2020). About us, viewed 13 November 2019, from http://www.dsbd.gov.za/.

Economic Times. (2022). "Experts say that 90% of startups fail due to inadequate market research." Retrieved from Economic Times.

Emon, M. M. H., & Khan, T. (2023). The Impact of Cultural Norms on Sustainable Entrepreneurship Practices in SMEs of Bangladesh. Indonesian Journal of Innovation and Applied Sciences (IJIAS),3(3), 201–209

Etzkowitz, H., & Leydesdorff, L. (1995). The Triple Helix--University-industry-government relations: A laboratory for knowledge based economic development. EASST review, 14(1), 14-19.

Falk, A. F., Saeed, S. T., Jordaan, M., Rao, M. B., & Chaoui, N. E. H. (2024). An International E-Community Engagement Initiative Exploring College and Career Pathways: A Literature Review. Applications of Service Learning in Higher Education, 233-260.

Farnell, T., Ćulum Ilić, B., Dusi, D., O'Brien, E., Šćukanec Schmidt, N., Veidemane, N. and Westerheijden, D. (2020), Building and Piloting the TEFCE Toolbox for Community Engagement in Higher Education, Institute for the Development of Education, Zagreb.

Federal Ministry of Youth Development. (2021). YouWin Initiative Report 2021. Abuja: Government of Nigeria.

Feld, B. (2020). Startup communities: Building an entrepreneurial ecosystem in your city. John Wiley & Sons.

Finger, M., & Asún, J. M. (2003). A educação de adultos numa encruzilhada: aprender a nossa saída. Porto Editora.

Ghafar, A., 2020, 'Convergence between 21st century skills and entrepreneurship education in higher education institutes', International Journal of Higher Education 9(1), 218–229. https://doi.org/10.5430/ijhe.v9n1p218

Gangi, Y., & Sirelkhatim, F. (2023). The Best Practices in Entrepreneurship Education: A review, conceptual model, and Propositions. *Journal of Entrepreneurship Education*, *26*(4), 1-14.

Gavigan, S. (2021). The contribution of entrepreneurship training towards perceived emancipation amongst nascent rural female entrepreneurs in Uganda. Unpublished doctoral thesis, School of Marketing, College of Business, Technological University Dublin.

Grimes, S., & Lyons, G. (1994). Information technology and rural development: unique opportunity or potential threat?. *Entrepreneurship & Regional Development*, *6*(3), 219-237.

Hanapi, Z., & Nordin, M. S. (2014). Unemployment among Malaysia graduates: Graduates' attributes, lecturers' competency and quality of education. Procedia-social and behavioral sciences, 112, 1056-1063. doi: 10.1016/j.sbspro.2014.01.1269

Hasan S. M., Khan E. A., Nabi M. N. U. (2017). Entrepreneurial education at university level and entrepreneurship development. Educ. Train. 59 888–906. 10.1108/ET-01-2016-0020

Henry, C., and P. McGowan. 2016. "Embedding Entrepreneurship in Higher Education Institutions: Reconceptualising Entrepreneurship Education." AISHE-J 8 (1): 2741–2747.

Herman, E., & Stefanescu, D. (2017). Can higher education stimulate entrepreneurial intentions among engineering and business students? Educational Studies, 43(3), 312-327. doi.org/10.1080/03055698.2016.1277134

Higgins L. M., Schroeter C., Wright C. (2018). Lighting the flame of entrepreneurship among agribusiness students. Int. Food Agribus. Manag. Rev. 21 121–132. 10.22434/ifamr2016.0166

Huang, Y., Bu, Y., Liu, L., Xu, D., Xu, Z., & Zhao, G. (2022). Relationship between entrepreneurship education curriculum and agricultural students' satisfaction in China. Frontiers in psychology, 13, 884565.

Hunter, L., & Lean, J. (2018). Entrepreneurial learning–a social context perspective: evidence from Kenya and Tanzania. *Journal of Small Business and Enterprise Development*, 25 (1), 17-40. https:// doi.org/10.1108/JSBED-02-2017-0075

Jansen, R., & Gruber, M. (2018). "University-Business Collaboration in South Africa: The Role of Entrepreneurial Education". Higher Education Policy, 31(2), 225-248.

Jongbloed, B., Enders, J., & Salerno, C. (2008). Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher education*, *56*, 303-324.

Kabengele, T. M. (2018). The state of entrepreneurship and its socio-economic impact in the Cape Metropole Area (Doctoral dissertation, Cape Peninsula University of Technology).

Karabulut-Ilgu, A., Jaramillo Cherrez, N., & Jahren, C. T. (2018). A systematic review of research on the flipped learning method in engineering education. British Journal of Education

Kenya National Bureau of Statistics. (2022). Economic Survey 2022. Nairobi: Government of Kenya.

Klofsten, M., Fayolle, A., Guerrero, M., Mian, S., Urbano, D. & Wright, M. (2019). "*The entrepreneurial university as driver for economic growth and social change – key strategic challenges*", Technological Forecasting and Social Change, Vol. 141, pp. 149-158.

Kolb, B. (1984). Functions of the frontal cortex of the rat: a comparative review. Brain research reviews, 8(1), 65-98.

Kolb, D. A. (2014). Experiential learning: Experience as the source of learning and development. FT press.

Larrán Jorge, M. and Andrades Peña, F.J. (2017), "Analysing the literature on university social responsibility: a review of selected higher education journals", Higher Education Quarterly, Vol. 71 No. 4, pp. 302-319.

Ilonen, S., and J. Heinonen. 2018. "Understanding Affective Learning Outcomes in Entrepreneurship Education." Industry and Higher Education 32 (6): 391–404. https://doi.org/10.1177/0950422218805177

Löfsten H., Klofsten M., Cadorin E. (2020). Science Parks and talent attraction management: university students as a strategic resource for innovation and entrepreneurship. *Eur. Plan. Stud.* 28 2465–2488. 10.1080/09654313.2020.1722986

Mainemelis, C., Boyatzis, R. E., & Kolb, D. A. (2002). Learning styles and adaptive flexibility: Testing experiential learning theory. Management Learning, 33(1), 5-33.

Maka, L. (2023). Entrepreneurship Education in South Africa: Policy Implementation and Impact on Youth Empowerment.

Malywanga, J., Shi, Y., & Yang, X. (2020). Experiential approaches: Effective pedagogy "for" entrepreneurship in entrepreneurship education. Open Journal of Social Sciences, 8(02), 311.tional Technology, 49(3), 398–411.

Manzini, S.T., (2015), 'Measurement of innovation in South Africa: Analysis of survey metrics and recommendations', South African Journal of Science 111(11/12), 1–8. https://doi.org/10.17159/sajs.2015/20140163

Ministry of Commerce, Government of India. (2023). Startup India Annual Report 2023. Retrieved from Government of India.

Mlambo, V. H., Mbongwa, L., & Khambule, T. (2024). Cultivating The Future: The Importance of Entrepreneurship Education in South Africa's Basic Education Sector. *Asian Journal of Management, Entrepreneurship and Social Science*, *4*(04), 1-20.

Mok, K. H., & Jiang, J. (2018). Massification of higher education and challenges for graduate employment and social mobility: East Asian experiences and sociological reflections. International Journal of Educational Development, 63, 44-51. doi: 10.1016/j.ijedudev.2017.02.003

Mohamedbhai, G. (2015). The challenge of graduate unemployment in Africa. International Higher Education, 80(80), 12.

Mseleku, Z. (2022). Youth high unemployment/unemployability in South Africa: the unemployed graduates' perspectives. Higher Education, Skills and Work-Based Learning, 12(4), 775-790. doi :10.1108/HESWBL-06-2021-0114

Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. Journal of Information Technology Education Research, 18, 19–57

Mutua, J. (2021). "Entrepreneurial education and youth employment in Kenya: A case of Nairobi county." International Journal of Entrepreneurship, 25(2), 123-145.

Nabi, G., Liñán, F., & Fayolle, A. (2017). "The impact of entrepreneurship education on entrepreneurial intentions: A meta-analytic review". European Journal of Work and Organizational Psychology, 26(3), 1-23.

Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. Entrepreneurship theory and practice, 41(6), 1029-1055.

Naudé, W., (2017). Entrepreneurship, education and the fourth industrial revolution in Africa, viewed 02 March 2020, from http://ftp.iza.org/dp10855.pdf.

Nel, D., (2010). 'An integrated systems overview of higher education, research and innovation', Journal of Public Administration 45(3), 570–586.

Nel-Sanders, D., & Thomas, P. (2022). The role of government in promoting innovation-led entrepreneurial ecosystems. Africa's Public Service Delivery & Performance Review, 10(1), 13.

Nigerian Bureau of Statistics. (2023). Business Environment Survey 2023. Retrieved from NBS.

O'Brien, E., & Cooney, T. M. (2024). Enhancing inclusive entrepreneurial activity through community engagement led by higher education institutions. Journal of Enterprising Communities: People and Places in the Global Economy.

Park, Y. (2024). The Role of Education in Fostering Entrepreneurial Skills and Mindsets.

Patricio, L. D., & Ferreira, J. J. (2023). Aligning entrepreneurial universities' HEInnovate dimensions with entrepreneurs' needs: A graduate entrepreneur-centered perspective. The International Journal of Management Education, 21(3), 100882.

Pedler, M., Burgoyne, J., & Brook, C. (2005). What has action learning learned to become?. Action Learning: Research and Practice, 2(1), 49-68.

Price, K., & Ronnie, L. (2021). Contextual factors influencing entrepreneurship education at a South African University of Technology. The Southern African Journal of Entrepreneurship and Small Business Management, 13(1), 394.

Pugh, R., Hamilton, E., Jack, S., & Gibbons, A. (2016). A step into the unknown: Universities and the governance of regional economic development. European Planning Studies, 24(7), 1357-1373.

Ranga, M., & Etzkowitz, H. (2015). Triple Helix systems: an analytical framework for innovation policy and practice in the Knowledge Society. Entrepreneurship and knowledge exchange, 117-158.

Rauf, R., Wijaya, H., & Tari, E. (2021). Entrepreneurship education based on environmental insight: Opportunities and challenges in the new normal era. Cogent Arts & Humanities, 8(1), 1945756.

Revans, R. W. (1971). Developing effective managers. Praeger. Revans, R. W. (1980). Action learning: New techniques for managers. Blond & Briggs

Rodrigues, A. L. (2023). Entrepreneurship education pedagogical approaches in higher education. Education Sciences, 13(9), 940.

Rogerson, C.M., 2018, 'Innovation-driven local economic development: In search of the best practice implementation for South Africa', EuroEconomica 2(37), 21–34.

Sabela, T. P., Masuku, M. M. & Qwabe, L.Q. (2020). A reflection on academisation and its effect on curriculum transformation in South Africa's higher education

sector. *Alternation: Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa*. doi: 10.29086/2519-5476/2020/sp31a2

Santos, S. C., Neumeyer, X., & Morris, M. H. (2019). Entrepreneurship education in a poverty context: An empowerment perspective. *Journal of Small Business Management*, *57*(sup1), 6-32. https://doi.org/10.1111/jsbm.12485

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a eld of research. Academy of Management Review, 25(1), 217–226. https://doi.org/10.5465/amr.2000.2791611

Shao, L., Miao, Y., Ren, S., Cai, S., & Fan, F. (2024). Designing a framework for entrepreneurship education in Chinese higher education: a theoretical exploration and empirical case study. Humanities and Social Sciences Communications, 11(1), 1-12.

Smith, D. (2010). The role of entrepreneurship in economic growth. Undergraduate economic review, 6(1), 7.

Soluk, J., Kammerlander, N., & Darwin, S. (2021). Digital entrepreneurship in developing countries: The role of institutional voids. Technological Forecasting and Social Change, 170, 120876.

South African Reserve Bank. (2023). "An assessment of entrepreneurship in South Africa: Challenges and opportunities." Retrieved from SARB.

Thrane, C., Blenker, P., Korsgaard, S., & Neergaard, H. (2016). The promise of entrepreneurship education: Reconceptualizing the individual–opportunity nexus as a conceptual framework for entrepreneurship education. *International Small Business Journal*, *34*(7), 905-924. https://doi.org/10.1177/0266242616638422

Valerio, A., Parton, B., & Robb, A. (2014). Entrepreneurship education and training programs around the world: dimensions for success.

Volery, T., & Mueller, S. (2018). "Start-Up Projects in Entrepreneurship Education: Benefitting from the 'Lean Startup' Approach". Education + Training, 60(6), 619-630.

Von Briel, F., Davidsson, P., & Recker, J. (2018). Digital technologies as external enablers of new venture creation in the IT hardware sector. *Entrepreneurship Theory and Practice*, *42*(1), 47-69.

Wang Y. (2019). "Problems and countermeasures of innovation and entrepreneurship education in agricultural colleges and universities," in Proceedings of the 2019 5th International Conference on Social Science and Higher Education (ICSSHE 2019) (Amsterdam: Atlantis Press;), 65–68. 10.2991/icsshe-19.2019.267

Wang C., Zhang P., Zhu Q., Chen G., Cui L. (2022). Construction and exploration of innovative researching course" theory and technology of microforming. Int. J. Educ. Hum. 2 6–9. 10.54097/ijeh.v2i2.269

Wang, Q., Li, Y., Yang, Y., Little, M. G., Basnight, E. B., & Fryberger, C. B. (2024). University-Led Entrepreneurship Ecosystem Building in Underserved Communities: from a Network Perspective. *Geographical Review*, *114*(3), 353-377.