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Editorial note:

Faculty of Humanities Teaching and Learning Colloquium 2025 (T&L Colloquium 25) hosted by the Faculty of Humanities, North-West University, South Africa took place in Rustenburg, South Africa, from September 9-11, 2025, with a rich and stimulating programme filled with inspiring keynotes, contributed papers, workshops and panels. This bi-annual colloquium brings together educators, researchers, students, policymakers, and community practitioners. The main theme of T&L Colloquium 25 was “Reimagining the Future of Humanities Knowledge and Pedagogy: Decoloniality, Technology and the Social Justice Imperative.” This special issue of the *Journal of Contemporary Society And Education (JCSE)* contains Thirteen (13) selected papers presented at T&L Colloquium 2025. Selected contributions come from within and outside of South Africa and address a wide range of issues in humanities, decoloniality, technology and the social justice.

The introductory contribution by Tshifhiwa Ignatia Mashau provides an overview of research findings and trends related to the colloquium’s focus on the role of digital humanities and technology in supporting decolonial scholarship. The author’s article which titled “Decolonising digital health promotion in African higher education institutions: A justice-oriented literature review” develops a Digital Health Justice Framework to guide equitable and culturally responsive digital health promotion in African HEIs. A research article by Eyitayo Francis Adanlawo and Mpho Chaka follows with a discussion of emerging career pathways that foreground wellbeing and sustainable development, positioning humanities graduates as key contributors to sustainable and ethical futures. The authors identify novel professional opportunities in sectors including community engagement, policy development, and social innovation. They advocate for an expanded employability paradigm that integrates humanistic knowledge with sustainable development goals, underscoring the vital role of humanities disciplines in shaping resilient, inclusive societies.

The article by Nurain Aboo Mohammed evaluating the use of QR codes as a form of assessment in teaching and learning. The author confirms the potential of QR codes as both a useful and effective medium for assessment in educational settings. Samuel Chukwudi Agunyai and Victor Ojakorotu article “Analyzing the effect of the disconnection between the curriculum and Africa’s indigenous Knowledge on effective learning” argues that Africans’ realities still encompass indigenous knowledge on various levels that can be incorporated into the continent’s school curricula.

Other articles include: Examining the Impact of Digitalization and Inequality Post Covid -19 In Africa by Phuti Ignatius Moloto and Rosinah Pillay; The Omitted Conversation: Incorporating Teacher Union Scholarship for A Transformative Educational Agenda Within the Educational Landscape. Thembinkosi Zwane Trevor, David Matsepe; Examining factors behind an achieving institution: A scenario of secondary schools in Limpopo Province by Ngwako Solomon Modiba; Assessing the role of the COVID-19 catch-up recovery programme on learner performance in EFAL by Vele RJ, Tshikota and TM Badugela; Entrepreneurial Education and Sustainable Entrepreneurship Advancing Sustainable Development Goals in South Africa Through Small Businesses by Lazarus, M. and Beharry-Ramraj, A; Mitigating Grammatical Ambiguity In English Prepositional Phrases At Dzindi

Circuit Secondary School, South Africa by Farisani Thomas Nephawe; Exploring the Usage of Metadiscourse in Research Proposals Written by Honours Students by Mzamani Steven Khosa and Ernest Kwesi Klu; and Population Ethics and its implication for Developing Countries by Onwe Peter S. and Kelechi Johnmary Ani. Policy Windows and Missed Opportunities: An Institutional Analysis of How Teacher Unions Influence (or fail to influence) National Educational Policy Formulation by Zwane Theminkosi Trevor, Matsepe David.

Editor,

Prof. Mpho Chaka

North-West University, South Africa.

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ENTREPRENEURIAL EDUCATION AND SUSTAINABLE ENTREPRENEURSHIP ADVANCING SUSTAINABLE DEVELOPMENT GOALS IN SOUTH AFRICA THROUGH SMALL BUSINESSES

Lazarus, M.

Management and Entrepreneurship
School of Commerce
College of Law & Management Studies
University of KwaZulu-Natal (Westville Campus),
South Africa

&

Beharry-Ramraj, A

Management and Entrepreneurship
School of Commerce
College of Law & Management Studies
University of KwaZulu-Natal (Westville Campus),
South Africa

ORCID: <https://orcid.org/0000-0001-5674-885X>
Beharrya@ukzn.ac.za

ABSTRACT

The alignment of entrepreneurial education with sustainable entrepreneurship has become increasingly important as countries pursue the Sustainable Development Goals (SDGs). In South Africa, small businesses play a critical role in economic development yet face structural barriers that limit their adoption of sustainable practices. This study examined how entrepreneurial education influences the capacity of small businesses to align with and advance the SDGs. A desktop research design was employed, drawing on peer-reviewed literature, policy reports, and documented case studies. The findings indicate that South African university programs that embed sustainability into entrepreneurship curricula (particularly through experiential learning and innovation hubs) enhance graduates' ability to establish SDG-aligned ventures. Evidence from initiatives at the University of Cape Town Graduate School of Business, the University of the Western Cape, and Stellenbosch University's LaunchLab demonstrates that sustainability-integrated programs contribute to ventures in renewable energy, waste management, sustainable agriculture, and circular production models. Cases such as AgriProtein further illustrate how university-trained entrepreneurs translate sustainability education into scalable business innovation. The study concludes that entrepreneurial education strengthens human capital and operationalises Triple Bottom Line principles, positioning universities as key drivers of sustainable entrepreneurship and SDG advancement in South Africa.

Keywords: entrepreneurship, small business, sustainability, Sustainable Development Goals, entrepreneurial education

INTRODUCTION

The adoption of the SDGs in 2015 marked a global commitment to addressing poverty, inequality, environmental degradation, and inclusive economic growth through an integrated development framework. As Nhamo and Mjimba (2020)

argue, accelerating climate change, urbanisation, and resource depletion have reinforced the urgency of development models that simultaneously balance economic, social, and environmental priorities. While governments play a central coordinating role in achieving the SDGs, their realisation depends significantly on the active participation of private sector actors, particularly small businesses.

In developing economies such as South Africa, small businesses are recognised as essential contributors to employment creation, poverty alleviation, and local economic development (Burns, 2022). Their embeddedness within communities positions them as strategic actors in advancing ***SDG 1 (No Poverty)***, ***SDG 8 (Decent Work and Economic Growth)***, and ***SDG 10 (Reduced Inequalities)***. Carpentier and Braun (2020) further contend that when small enterprises integrate sustainability into their operations, they can simultaneously generate economic value while contributing to social equity and environmental protection. Despite this potential, the sustainability orientation of many small businesses in South Africa remains limited.

Existing scholarship indicates that small businesses in developing contexts face structural and operational constraints that hinder the adoption of sustainable practices. These include

limited access to finance, regulatory complexities, inadequate infrastructure, and insufficient awareness of sustainability principles (Khurana et al., 2021; Endris & Kassegn, 2022). Burns (2022) emphasises that resource limitations frequently prevent small enterprises from investing in sustainable technologies or redesigning business models around long-term environmental and social objectives. As a result, although small businesses possess agility and innovation capacity, their contribution to the SDGs is often constrained by systemic barriers.

Within this context, entrepreneurship education has increasingly been positioned as a strategic mechanism for strengthening the sustainability capacity of future entrepreneurs. Dyantyi, Ncanywa and Nguza-Mduba (2024) argue that embedding sustainability principles within entrepreneurship curricula equips students with competencies necessary to address complex socio-economic and environmental challenges. Similarly, Aboobaker and Renjini (2020) highlight that entrepreneurship education enhances human capital by cultivating opportunity recognition, problem-solving ability, and strategic thinking, which are essential for developing sustainable ventures. Experiential learning approaches, including case studies and industry engagement, further deepen students' understanding of responsible business practices and real-world sustainability challenges (Zhong et al., 2022).

International experiences demonstrate that universities can play a transformative role in aligning entrepreneurship education with sustainable development objectives. Institutions in Finland and Germany

have incorporated sustainability frameworks such as the Triple Bottom Line into entrepreneurship programs to promote eco-innovation and responsible enterprise development (Geier & Fichter, 2015). In emerging economies, curriculum reforms and industry partnerships have been introduced to align entrepreneurial training with evolving labour market and sustainability demands (Chhabra et al., 2021; Prabhakar, 2024). African universities have similarly begun positioning sustainability as a core component of entrepreneurship education, reinforcing the role of higher education institutions as catalysts for sustainable development (Kidere & Mkwizu, 2023).

Despite these developments, there remains limited empirical clarity regarding the extent to which South African universities are effectively preparing students to establish sustainable enterprises that meaningfully contribute to the SDGs. While policy discourse frequently emphasises sustainable entrepreneurship, the translation of sustainability-oriented education into practical, SDG-aligned business practices within the small business sector is not sufficiently understood. Small businesses continue to face structural constraints, resource limitations, and regulatory challenges that impede the integration of sustainable practices (Khurana et al., 2021; Burns, 2022). This disconnect between educational intent and practical implementation represents a critical gap in the literature.

Against this backdrop, this study examines how entrepreneurial education contributes to fostering sustainable entrepreneurship in South

Africa and assesses its influence on the capacity of small businesses to align with and advance the SDGs. Specifically, the study critically analyses the extent to which sustainability-oriented entrepreneurship curricula strengthen the knowledge, skills, and mindset required for small enterprises to adopt and implement sustainable business practices that contribute to national and global development objectives.

LITERATURE REVIEW

Introduction to SDGs and small businesses

While the introduction established the global significance of the SDGs, this section narrows the focus to how these goals translate into practical expectations for small enterprises, particularly within developing economies. The SDGs function not only as a global policy framework but also as an operational benchmark for businesses seeking long-term legitimacy and competitiveness (United Nations Global Compact, 2024). For small businesses, alignment with the SDGs requires integrating sustainability into core strategy rather than treating it as peripheral corporate social responsibility.

In South Africa, small businesses occupy a structurally significant yet vulnerable position within the economy. Their contribution to employment generation, innovation diffusion, and community-level development is well established (Burns, 2022). However, Carpentier and Braun (2020) argue that the transformative potential of small enterprises lies in their ability to embed sustainability into daily operational decisions, thereby linking profitability with social and

environmental value creation. This repositioning shifts small businesses from passive beneficiaries of development policy to active implementers of SDG-aligned solutions.

Operationalising SDGs at the small enterprise level requires translating global goals into sector-specific practices. For example, SDG 8 (Decent Work and Economic Growth) may manifest through fair labour practices and local employment generation, while SDG 12 (Responsible Consumption and Production) may involve waste reduction, resource efficiency, and circular production systems (Alexander, 2021; Bowmaker-Falconer & Herrington, 2020). In this sense, the SDGs provide a strategic lens through which small businesses can evaluate their economic, social, and environmental footprint.

However, the literature also suggests that SDG integration is not automatic. Endris and Kassegn (2022) note that small enterprises in developing contexts often lack the institutional support and sustainability literacy required to internalise global development frameworks. Consequently, while small businesses possess agility and innovation capacity, their SDG contribution depends significantly on enabling mechanisms such as education, ecosystem support, and policy alignment. This contextual understanding positions entrepreneurship education as a critical intermediary capable of bridging the gap between global sustainability frameworks and practical small business implementation.

Challenges facing small businesses in implementing sustainable practices in South Africa

Despite their potential, small businesses in developing economies like South Africa encounter numerous challenges when attempting to adopt sustainable practices aligned with the SDGs. Burns (2022) notes that limited access to finance, regulatory barriers, and a lack of awareness about sustainability principles among entrepreneurs and consumers are substantial hindrances. Additionally, small businesses often lack the necessary resources and capacity to invest in sustainable technologies and practices, making it difficult for them to compete with larger corporations (Khurana et al., 2021). The absence of adequate infrastructure and institutional support in developing economies further exacerbates these challenges, hindering the growth and development of small businesses and limiting their ability to implement sustainable practices (Endris and Kassegn, 2022).

Opportunities for small businesses in implementing sustainable practices in South Africa

Nevertheless, there are considerable opportunities for small businesses in developing economies to incorporate sustainable practices that align with the SDGs. Burns (2022) points out that increasing consumer demand for sustainable products and services, greater government support through favourable policies, and technological advancements that facilitate the development of sustainable business models are emerging trends that present promising opportunities. Moreover,

small businesses possess the advantage of agility and flexibility, enabling them to quickly innovate and adapt to changing market demands, which can accelerate the implementation of sustainable practices (Rosenqvist, 2022). By collaborating with larger corporations, non-governmental organisations (NGOs), and government agencies, small businesses can also access the necessary resources, expertise, and funding to support their sustainability efforts (Mofokeng et al., 2023). In this context, small businesses have a crucial role to play in advancing the SDGs, and addressing the challenges and opportunities they face is key to fostering sustainable development in South Africa.

The role of entrepreneurship education in fostering sustainable business practices

The literature consistently emphasises the vital role of entrepreneurship education in fostering sustainable business practices. Studies have shown that entrepreneurship education not only equips students with essential business skills but also nurtures a mindset oriented towards sustainability (Fayolle, 2018). By incorporating sustainability principles into entrepreneurship curricula, educational institutions can empower future entrepreneurs to recognise and address social, environmental, and economic challenges. Dyantyi et al. (2024) assert that this approach aligns with the broader objectives of the SDGs, encouraging students to develop innovative solutions that contribute to sustainable development.

Integration of sustainability into entrepreneurship curricula

Aboobaker and Renjini (2020) emphasise that the integration of sustainability into entrepreneurship curricula is a critical factor in shaping the ability of students to create sustainable businesses. Research indicates that curricula incorporating sustainability principles, such as environmental stewardship, social responsibility, and ethical decision-making, can substantially enhance students' awareness and understanding of sustainable business practices (Zhong et al., 2022). This integration can take many forms, including case studies on sustainable businesses, projects focused on sustainability challenges, and partnerships with organisations committed to sustainable practices. Through experiential learning opportunities, students can apply theoretical knowledge to real-world scenarios, thereby increasing their capacity to develop and implement sustainable business models.

Influence on the ability of students to create sustainable businesses

The impact of sustainability-focused entrepreneurship education on the ability of students to establish sustainable businesses is profound. Iwu, Opute, Nchu, Eresia-Eke, Tengeh, Jaiyeoba and Aliyu (2021) suggest that students exposed to sustainability concepts are more likely to pursue entrepreneurial ventures that prioritise sustainable practices and contribute positively to society. Sustainability education nurtures critical thinking, creativity, and problem-solving skills, which are essential for navigating the

complexities of sustainable entrepreneurship (Nhamo and Mjimba, 2020). As students develop a deeper understanding of the interconnectedness of business, society, and the environment, they become better equipped to identify innovation opportunities and create businesses that align with sustainability principles.

Sustainable entrepreneurship and its support for specific SDGs

Sustainable entrepreneurship plays a crucial role in advancing multiple SDGs by integrating social, environmental, and economic considerations into business operations. Where SDG 8 (Decent Work and Economic Growth) benefits greatly from sustainable entrepreneurs who create jobs while ensuring fair labour practices and decent working conditions. By prioritising sustainability, these entrepreneurs contribute to inclusive economic growth that is also environmentally responsible, thereby strengthening economic resilience in their communities (Alexander, 2021). Furthermore, Bowmaker-Falconer and Herrington (2020) argue that sustainable entrepreneurship directly supports SDG 12 (Responsible Consumption and Production), as these businesses often focus on resource efficiency, waste reduction, and sustainable sourcing practices. According to Alexander (2021), such approaches not only minimise environmental impacts but also promote a circular economy, where materials are reused and recycled, contributing to a more sustainable production cycle.

Sustainable entrepreneurship also plays an important role in advancing SDG 13 (Climate Action) by fostering innovations that address climate change impacts (Zhong et al., 2022). Alexander (2021) states that entrepreneurs focused on sustainability frequently develop eco-friendly technologies and practices that reduce greenhouse gas emissions and promote renewable energy sources. For instance, businesses involved in clean energy or sustainable agriculture are not only addressing climate change but also enhancing food security and energy access, thus simultaneously supporting several SDGs.

The potential of University-trained entrepreneurs in driving innovation

University-trained entrepreneurs possess the knowledge, skills, and networks essential for driving innovation in small businesses that tackle pressing social, environmental, and economic challenges (Fanea-Ivanovici and Baber, 2022). Küttim, Kallaste, Venesaar and Kiis, (2014) assert that higher education institutions play a pivotal role in equipping entrepreneurs with a comprehensive understanding of sustainability principles and business practices. By embedding sustainability into entrepreneurship curricula, universities foster critical thinking and problem-solving abilities necessary for developing innovative solutions to complex challenges (Fayolle, 2018).

Iwu et al. (2021) propose that university graduates focusing on sustainable entrepreneurship are more likely to establish ventures that prioritise social and environmental impact alongside profitability. Ibrahim and Adeniyi (2024) further argue that these entrepreneurs can leverage their academic backgrounds to identify

market gaps and create products or services that address societal needs, such as affordable renewable energy solutions or sustainable food systems. Moreover, university-trained entrepreneurs often have access to incubators, mentorship programs, and funding opportunities that can enhance their ability to innovate and scale their businesses effectively (Alexander, 2021).

In conclusion, the integration of sustainability into entrepreneurship education is essential for fostering sustainable business practices. By providing students with the knowledge, skills, and mindset necessary to create sustainable ventures, educational institutions play a crucial role in advancing sustainable development. As demand for sustainable solutions grows, the role of entrepreneurship education in shaping socially and environmentally conscious entrepreneurs becomes even more significant. Sustainable entrepreneurship not only supports the achievement of specific SDGs but also offers immense potential for fostering innovation in small businesses. Through university-based entrepreneurship education, entrepreneurs are empowered to create socially and environmentally responsible businesses that contribute to a more sustainable future.

Theoretical Framework

This section critically examines two pivotal theoretical frameworks, the TBL and the Human Capital Theory (HCT), offering insight into how entrepreneurial education can cultivate sustainable entrepreneurship. The TBL framework evaluates sustainable

business practices through three core dimensions which are economic, social, and environmental (Qeque, 2019). Concurrently, HCT highlights the critical role of education and skills development in empowering entrepreneurs to innovate and stimulate growth (Aboobaker and Renjini, 2020). Together, these theories provide a comprehensive foundation for analysing the influence of entrepreneurial education on the development of small businesses that significantly contribute to the SDGs.

The TBL Framework

The TBL framework represents a business model that redefines the success of a company beyond mere financial performance (Nogueira, Gomes & Lopes, 2022). Introduced by John Elkington in 1994, the TBL framework insists on evaluating business success based on three interconnected dimensions which are economic, social, and environmental (Qeque, 2019). Satar (2022) asserts that this approach compels businesses to acknowledge their responsibility not only to generate profits but also to positively influence society and the environment. By adopting the TBL perspective, businesses ensure their operations are sustainable, equitable, and environmentally responsible, ultimately leading to long-term resilience and success.

Evaluating Sustainable Business Practices with the TBL Framework

As previously noted, the TBL framework assesses sustainable business practices by evaluating the performance of a company along three fundamental dimensions which are economic, social, and environmental.

According to Qeke (2019), the economic dimension primarily concerns the financial health of a company, such as profitability, revenue growth, and return on investment. This dimension is pivotal in confirming the viability of the business and its ability to endure in the long term (Sabino, Moreira, Cesário & Pinto Coelho, 2024). In parallel, Qeke (2019) describes the social dimension as focusing on the societal impact of a company, including its relationships with stakeholders such as employees, customers, suppliers, and the broader community. This includes aspects such as fair labour practices, community engagement, and social responsibility. Satar (2022) further explains that the environmental dimension evaluates the ecological footprint of a company, scrutinising its use of natural resources, waste management, and pollution reduction efforts.

Through the lens of the TBL framework, businesses can identify areas requiring improvement and formulate strategies to enhance their sustainability performance. A company might identify the substantial environmental impact of its manufacturing process and subsequently implement measures to reduce waste and energy consumption (Sabino et al., 2024). Similarly, companies can recognise opportunities to enhance their social performance by investing in employee development or collaborating with local organisations to foster community development (Nogueira et al., 2022). By integrating the TBL framework into decision-making, companies can ensure their operations are not only financially

sound but also socially responsible and environmentally sustainable.

Human Capital Theory

The HCT posits that individuals possess valuable skills, knowledge, and experiences that enhance their productivity and economic worth (Aboobaker and Renjini, 2020). According to Becker (1992), a prominent economist in this field, as cited by Deming (2022), investing in education and training is crucial for improving an individual's capabilities and potential earning power. Within this framework, human capital is viewed as an asset that generates long-term returns, benefiting both individuals and society. Becker (1992) further argues that through investments in education and skill development, individuals can increase their employability, adaptability, and economic contributions, thereby positioning human capital as a key driver of national economic growth and competitiveness.

This theory emphasizes the crucial role of education and training in enhancing human capital by equipping individuals with the knowledge and skills necessary for greater productivity, innovation, and economic development (Shokunbi, Raimi & T, 2013). Formal education, vocational training, and practical experiences, such as on-the-job learning, are all essential in fostering these competencies. In this regard, human capital not only elevates individuals but also serves as a cornerstone for national progress and sustainable economic growth. Shokunbi et al. (2013) argue that the expertise and skills developed through education contribute to a workforce capable of meeting the evolving

demands of the economy, fostering innovation, and sustaining long-term development.

Entrepreneurial Education and Sustainable Entrepreneurship

Entrepreneurial education plays a pivotal role in the development of sustainable entrepreneurship by equipping students with the necessary skills and knowledge to address complex social, environmental, and economic challenges (Shokunbi et al., 2013). Integrating sustainability into entrepreneurial curricula enables educational institutions to cultivate a new generation of entrepreneurs capable of driving positive, transformative change. This educational approach prioritises the following several key areas.

Firstly, entrepreneurial education fosters skill development with a strong emphasis on critical thinking and problem-solving (Eldieva, 2022). Students are trained to critically analyse complex issues and devise innovative solutions that incorporate sustainability. By nurturing creativity and adaptability, educational programs prepare students to tackle the unique challenges inherent in sustainable business practices. Additionally, students acquire comprehensive knowledge in sustainability topics, including corporate social responsibility, environmental stewardship, and ethical decision-making, which provide a solid foundation for pursuing sustainable entrepreneurship (Küttim et al., 2014). Eldieva (2022) further explains that this knowledge is enhanced by insights into market trends concerning sustainability,

enabling students to identify viable opportunities for sustainable ventures.

Furthermore, Zhong et al. (2022) highlights that practical experience is a core component of entrepreneurial education, as it often includes hands-on projects, case studies, and internships with sustainable businesses. These activities afford students the opportunity to apply theoretical knowledge in real-world contexts, deepening their understanding of sustainable business operations. Entrepreneurial education also promotes networking opportunities, connecting students with industry professionals and mentors who can support their entrepreneurial efforts (Aboobaker and Renjini, 2020).

Lastly, Zhong et al. (2022) argues that entrepreneurial education fosters a sustainability-oriented mindset. It encourages students to prioritise long-term sustainability over short-term profit, promoting a holistic view of business success. This shift in mindset is complemented by a commitment to social responsibility, where students learn the importance of creating businesses that have a positive societal impact (Shokunbi et al., 2013). By fostering an entrepreneurial outlook that values social impact and sustainability, educational programs significantly contribute to shaping entrepreneurs who are well-equipped to address the global challenges of today. Through these mechanisms, entrepreneurial education not only enhances human capital but also aligns with broader economic, social, and environmental goals, thus contributing to the development of sustainable entrepreneurship. These frameworks

collectively guide the analysis of the relationship between entrepreneurial education, sustainable entrepreneurship, and the SDGs.

METHODOLOGY

This study adopts a structured narrative review design to synthesise existing scholarship on entrepreneurial education, sustainable entrepreneurship, and the SDGs within the South African small business context. The paper does not present primary empirical findings; rather, it develops analytically derived themes from existing literature. A narrative review approach was considered appropriate because the study integrates diverse theoretical and empirical contributions across entrepreneurship education, sustainability, and small business development, interpreted through the TBL framework and HCT. A structured search was conducted using Google Scholar, Scopus-indexed journals accessed through the UKZN Library portal, Web of Science, ScienceDirect, and Emerald Insight. Search terms included combinations of “entrepreneurial education,” “sustainable entrepreneurship,” “small business,” “Sustainable Development Goals,” “Triple Bottom Line,” and “Human Capital Theory.” The primary publication window covered 2014 to 2024 to reflect post-SDG adoption scholarship, while earlier foundational theoretical works were included where conceptually necessary.

Sources were included if they were peer-reviewed journal articles, scholarly books, conference proceedings, or reputable institutional reports addressing entrepreneurial education, sustainability integration, small businesses, or SDG alignment,

with preference for developing economy and South African contexts. Non-scholarly opinion pieces, sources lacking methodological clarity, and studies unrelated to sustainability or entrepreneurship education were excluded. Each source was assessed for relevance, theoretical grounding, publication credibility, and contextual applicability.

Data extraction focused on identifying recurring conceptual patterns relating to curriculum integration, sustainability capacity development, SDG alignment, and small business constraints. A thematic synthesis approach was employed, grouping literature according to the study objectives. The TBL framework guided the analysis of economic, social, and environmental dimensions, while HCT informed the interpretation of how education enhances entrepreneurial capability. Through this structured narrative synthesis, the paper provides a theoretically grounded understanding of how entrepreneurial education contributes to sustainable entrepreneurship in South Africa.

DISCUSSION

This section presents the findings and discussion from this study that investigated the role of entrepreneurial education in promoting sustainable entrepreneurship and its impact on advancing the United Nations SDGs through small businesses in South Africa. This discussion aligns directly with the primary objective of the study which was to (1) examine the role of entrepreneurial education in fostering sustainable entrepreneurship in South Africa, with a focus on (2) how entrepreneurial education influences the ability of small businesses to align

with the SDGs and (3) advance sustainable business practices that contribute to the achievement of these goals. The findings are illustrated with practical case studies that provide real-world evidence of the role entrepreneurial education plays in shaping sustainable entrepreneurship in South Africa.

The Role of Entrepreneurial education in Promoting Sustainable Entrepreneurship

Curriculum Integration of Sustainability

Entrepreneurial education in South Africa has made commendable strides in integrating sustainability into entrepreneurship curricula, fostering a new generation of entrepreneurs who are well-equipped to address the pressing challenges of sustainable development. Increasingly, universities are offering programs that address environmental management, social entrepreneurship, and sustainable business practices as core components of their business degrees (Nsahlai, Zogli, Lawa & Dlamini, 2020). A notable example is the University of Cape Town's Graduate School of Business, where sustainability is embedded in its Master of Business Administration program. Here, students are not only taught to understand business models but are also challenged to consider the social and environmental impacts of their decisions. This approach nurtures ethical leadership and corporate social responsibility, equipping students to build businesses that do not merely focus on profit but also contribute positively to society and the environment (Akindeji and Ewim, 2023).

Experiential Learning and Applied Sustainability Training

Moreover, the University of the Western Cape's Centre for Entrepreneurship and Innovation illustrates how sustainability can be integrated into entrepreneurial education through applied training initiatives. By offering hands-on programs focused on waste reduction, renewable energy, and community development, the Centre aligns entrepreneurial learning with broader sustainable development objectives. Nsahlai et al. (2020) emphasise that such initiatives are instrumental in preparing students to address complex social and environmental challenges through enterprise development. This suggests that university programs in South Africa are moving beyond theoretical advocacy toward practical sustainability capacity-building.

However, the impact of these initiatives must be considered within their institutional and contextual constraints. The Centre operates within a university ecosystem that provides access to academic expertise, structured support systems, and collaborative networks that may not be available to entrepreneurs outside formal higher education settings. Furthermore, while hands-on training enhances awareness and skill development, the translation of these competencies into viable, sustainable ventures often depends on external factors such as funding access, regulatory stability, and market demand. The representativeness of such university-supported initiatives may therefore be limited when considering the broader small business sector, particularly informal or resource-

constrained enterprises. These contextual realities highlight that while university programs can catalyse sustainable entrepreneurship, their broader scalability requires complementary ecosystem support beyond the academic environment.

The Impact of Entrepreneurial Education on the Ability of Small Businesses to Contribute to the SDGs

SDG 12: Responsible Consumption and Production (EnviroServ)

The findings confirm that entrepreneurial education plays a transformative role in empowering small businesses to contribute to the achievement of SDGs. When students are exposed to sustainability-focused entrepreneurial principles, they are better prepared to incorporate SDG-aligned objectives into their ventures. This is exemplified by the case of EnviroServ, a waste management company founded by a Stellenbosch University graduate. EnviroServ's business model, which focuses on responsible consumption and production (SDG 12), reflects sustainability principles embedded during the founder's academic training (Haines, 2014). Through eco-friendly waste management solutions, the company reduces landfill waste and promotes recycling, contributing to environmental mitigation efforts in South Africa.

However, EnviroServ operates within a regulated waste management sector that requires significant compliance capacity, infrastructure investment, and municipal partnerships, which may not be accessible to smaller or informal enterprises. The company's ability to scale is closely tied to regulatory

approvals and long-term contracts, factors that limit direct replicability for many resource-constrained entrepreneurs. Moreover, waste management ventures often depend on stable public-private partnerships, highlighting that educational preparation alone is insufficient without supportive institutional ecosystems.

SDG 7: Affordable and Clean Energy (Green Energy Solutions)

Similarly, Green Energy Solutions, founded by an alumnus of the University of KwaZulu-Natal, demonstrates how entrepreneurial education can catalyse innovation aligned with SDG 7 (Affordable and Clean Energy). By providing solar power solutions to underserved communities, the business addresses energy poverty while promoting environmental sustainability. Ilupeju and Inambao (2014) report that the founder's exposure to sustainable development principles during university study influenced the venture's creation.

Nevertheless, renewable energy ventures face high initial capital costs, technological dependency, and policy uncertainty related to energy regulation. Access to financing, grid integration approvals, and government incentives significantly shape the viability of such enterprises. Consequently, while the case illustrates the catalytic role of entrepreneurial education, the broader adoption of similar models by small businesses may be constrained by financial and policy barriers.

SDG 13: Climate Action (LaunchLab)

Another notable example is Stellenbosch University's LaunchLab initiative, which supports students in developing sustainable agricultural

innovations, including organic fertilizers derived from agricultural waste, contributing to SDG 13 (Climate Action) (Fairweather et al., 2017). This case demonstrates how university-based incubation structures can translate sustainability-oriented learning into commercially viable environmental solutions.

However, LaunchLab beneficiaries typically operate within structured incubation systems that provide mentorship, funding access, and technical support. Such institutional backing is not universally available to all entrepreneurs, particularly those outside formal higher education networks. Additionally, agricultural sustainability innovations often depend on farmer adoption rates, supply chain integration, and rural infrastructure, which may limit scalability in diverse regional contexts. Therefore, while LaunchLab illustrates the enabling role of entrepreneurial education combined with incubation support, it may not fully represent the realities faced by informal or under-resourced small enterprises.

Advancing SDGs through Sustainable Business Practices

SDG 11: Sustainable Cities and Communities (EcoBrick Exchange)

Sustainable business practices, when applied effectively, have the potential to significantly advance the SDGs, and entrepreneurial education plays a foundational role in cultivating this orientation. EcoBrick Exchange, a social enterprise founded by Nelson Mandela University alumni, illustrates how sustainability-driven ventures can contribute to SDG 11 (Sustainable Cities and Communities). By producing building materials from recycled plastic

waste, EcoBrick Exchange addresses both plastic pollution and affordable housing shortages in South Africa (Masluha, Hendra & Rahmansyah, 2023). This dual environmental and social impact reflects the integrative nature of sustainable entrepreneurship.

However, the viability of such a model depends heavily on access to waste supply chains, community participation, and local construction market acceptance. Scaling eco-brick production requires regulatory compliance in building standards and sustained behavioural change among consumers, which may limit widespread adoption. Furthermore, social enterprises operating in low-income communities often face financial sustainability pressures, raising questions about long-term scalability without donor or partnership support.

SDG 6: Clean Water and Sanitation (GIBS Social Entrepreneurship Programme)

Experiential learning initiatives within universities further demonstrate the potential of entrepreneurial education to support SDG advancement. Nsahlai et al. (2020) argue that applied learning environments enhance students' ability to address complex development challenges. For instance, the University of Pretoria's Gordon Institute of Business Science (GIBS) social entrepreneurship program enabled students to develop low-cost water purification systems for rural communities, contributing to SDG 6 (Clean Water and Sanitation). Such initiatives illustrate how academic programs can translate sustainability

knowledge into practical, community-oriented solutions.

Nevertheless, many student-developed innovations remain at prototype or pilot stage and may struggle to transition into commercially viable enterprises. Rural infrastructure limitations, distribution challenges, and maintenance capacity constraints can hinder the long-term sustainability of such interventions. Additionally, university-supported projects often benefit from institutional resources and technical expertise that are not easily replicable outside structured academic environments.

SDG 2 and SDG 12: Food Security and Responsible Production (AgriProtein)

AgriProtein, co-founded by University of Cape Town alumni, offers a prominent example of sustainable entrepreneurship addressing multiple SDGs. By producing insect-based protein for animal feed, the company contributes to SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production) through reduced reliance on environmentally intensive feed sources (Igorov et al., 2022). The venture demonstrates how sustainability-oriented education can stimulate innovation that integrates environmental efficiency with food security objectives.

However, AgriProtein's growth trajectory has been supported by access to venture capital, advanced research infrastructure, and international market networks, conditions not commonly available to most small enterprises. The insect-protein industry also faces regulatory uncertainty and consumer acceptance barriers, which complicate replication in different contexts. While the case reflects the high-impact potential of university-trained

entrepreneurs, it may not fully represent the structural realities faced by typical small businesses operating in resource-constrained environments.

Synthesis of Findings: Linking Entrepreneurial education with Sustainable Entrepreneurship and SDGs

The findings unequivocally demonstrate that entrepreneurial education in South Africa plays a crucial role in promoting sustainable entrepreneurship and advancing the SDGs. The case studies discussed reflect the significant impact of entrepreneurial education on the ability of small businesses to adopt sustainable business practices that align with the SDGs. Through programs that emphasize sustainability, universities are not just educating future entrepreneurs but are actively shaping the way businesses operate to address social and environmental challenges.

While scaling these practices across all small businesses presents challenges, the evidence suggests that universities are instrumental in fostering a new generation of entrepreneurs who are motivated to drive positive social change. The integration of sustainability into university curricula, coupled with experiential learning opportunities, has proven to be an effective strategy for preparing students to launch businesses that make meaningful contributions to global development goals.

Summary of Key Findings with Theoretical Framework Alignment

The findings of this study align strongly with established theoretical

frameworks such as the TBL and HCT. The first objective, which highlights the integration of sustainability into university curricula, is consistent with the TBL framework. The TBL advocates for businesses to balance economic, environmental, and social impacts, a principle that is now embedded in South African universities' approach to entrepreneurship education (Nogueira et al., 2022). By focusing on sustainability, universities equip students to create businesses that consider the long-term impact on people, the planet, and profit, thereby advancing the SDGs.

The second objective underscores the impact of entrepreneurial education on small businesses' ability to contribute to SDGs. This aligns with HCT, which posits that education and training enhance an individual's productivity and economic value. In this context, entrepreneurial education enhances the entrepreneurial capacity of small business owners, empowering them to implement sustainable practices that align with SDGs such as poverty alleviation, climate action, and responsible production.

Lastly, the third objective demonstrates that sustainable business practices, taught and nurtured through entrepreneurial education, can drive significant progress toward the SDGs. The case studies presented, ranging from waste management to renewable energy and sustainable agriculture, underscore the potential of university-educated entrepreneurs to contribute to global development goals. By adhering to TBL principles, these entrepreneurs not only aim for profit but also contribute to the social and environmental well-being of their

communities, directly furthering the SDGs.

In conclusion, the research confirms the integral role that entrepreneurial education plays in fostering sustainable entrepreneurship in South Africa. The alignment with TBL and HCT emphasizes the need for continued investment in education and collaborative initiatives to support small businesses in their contribution to the SDGs. The evidence gathered highlights the crucial role of universities in developing entrepreneurs who prioritize sustainability, creating businesses that can drive meaningful change across South Africa and beyond.

RECOMMENDATIONS

To strengthen entrepreneurship programs in South Africa with a focus on sustainability, universities must place a heightened emphasis on the integration of sustainability principles into their curricula. This integration is not merely an additive element but should be central to the design and delivery of entrepreneurship education. Developing interdisciplinary courses that fuse traditional business acumen with environmental and social considerations will provide students with a comprehensive understanding of the complex, multifaceted nature of sustainable entrepreneurship (Dyantyi et al., 2024). By broadening the scope of entrepreneurship programs to include environmental science, social justice, and ethical governance, universities will better equip their graduates to navigate the challenges and opportunities posed by sustainability in business. This curriculum approach should stress the

importance of businesses that balance profit-making with social and environmental responsibility, ensuring that students are prepared to be leaders in the new wave of sustainable business ventures.

Moreover, universities should place greater emphasis on providing experiential learning opportunities. These opportunities, which can include community-based projects, internships, and partnerships with local businesses, allow students to apply theoretical knowledge in real-world settings. This hands-on experience is vital for fostering a practical understanding of sustainable business practices (Aboobaker and Renjini, 2020). By engaging directly with local communities and industries, students can better grasp the complexities of implementing sustainable solutions in diverse contexts, as well as the barriers that often prevent small businesses from adopting such practices. These experiential programs not only enhance the learning experience but also serve as a vital bridge between academic learning and the entrepreneurial realities of running a business that contributes to the SDGs.

In addition to these educational strategies, universities should consider establishing innovation hubs or incubators specifically dedicated to sustainable entrepreneurship. These hubs would serve as nurturing environments where students, aspiring entrepreneurs, and small business owners can receive essential resources such as funding, mentorship, and networking opportunities. Through these innovation spaces, universities can facilitate the development of sustainable business ideas by providing

a platform for students to experiment with new models that prioritize sustainability, thereby fostering an entrepreneurial ecosystem that is closely linked to the needs of society and the environment (Zhong et al., 2022). These incubators could collaborate with industry stakeholders, government bodies, and non-profit organizations to ensure that the businesses emerging from these programs are both innovative and impactful in addressing the SDGs.

Furthermore, universities should invest in faculty development programs that keep academics at the forefront of sustainability trends and teaching methodologies. The quality of education in sustainable entrepreneurship hinges on the expertise of faculty members, who must be equipped with the latest knowledge in sustainability and entrepreneurship to effectively guide students. By offering ongoing professional development opportunities, universities can ensure that their academics remain knowledgeable about the rapidly evolving landscape of sustainable business practices. These programs could include workshops, research seminars, and international collaborations that expose faculty to cutting-edge research and best practices in the field. In doing so, universities will not only improve the quality of entrepreneurship education but also foster an academic culture that is deeply engaged with sustainability.

Finally, universities should encourage interdisciplinary collaborations and partnerships with external stakeholders, including industry leaders, government agencies, and international organizations. By creating platforms for collaboration across sectors,

universities can ensure that their entrepreneurship programs remain responsive to the ever-changing demands of the global sustainability agenda. These partnerships would not only enhance the relevance of university programs but also provide students with valuable networking opportunities and insights from professionals who are actively engaged in sustainability-driven businesses. By fostering these collaborations, universities will play a key role in shaping the future of sustainable entrepreneurship in South Africa, driving both economic growth and social transformation in alignment with the SDGs.

FUTURE RESEARCH

Although this study highlights the importance of entrepreneurship education in advancing sustainable entrepreneurship, several avenues warrant further empirical investigation. First, future research should examine the comparative effectiveness of different pedagogical approaches in embedding sustainability within entrepreneurship education. Rather than relying solely on cross-sectional evaluations, longitudinal cohort studies could track graduates over a five- to ten-year period to assess whether exposure to experiential learning methods (e.g., internships, industry projects, community-based learning) leads to measurable differences in venture sustainability performance and SDG alignment. A key research question could be: Does participation in sustainability-focused experiential learning increase the likelihood of graduates establishing SDG-aligned enterprises compared to traditional lecture-based programs?

Second, there is a need for in-depth empirical studies examining the structural barriers small businesses face when attempting to implement sustainable practices in South Africa. Mixed-methods research combining national SME survey data with qualitative case studies could identify which constraints (financial, regulatory, infrastructural, or knowledge-based) most significantly impede sustainability integration. Future research might ask: Which contextual factors most strongly predict successful adoption of sustainable business practices among South African SMEs? Such evidence would provide clearer guidance for institutional and policy interventions.

Third, sector-specific comparative research could yield insights into scalable sustainable entrepreneurship models. Comparative case studies across industries such as renewable energy, waste management, and sustainable agriculture could analyse how sustainability is operationalised in different sectors and assess replicability across contexts. Researchers may investigate: What organisational capabilities enable sustainable business models to scale within resource-constrained environments?

Fourth, the intersection between technological innovation and sustainability-oriented entrepreneurship education requires deeper exploration. Empirical studies could examine how digital tools, artificial intelligence, and data analytics are incorporated into entrepreneurship curricula and whether such integration enhances sustainable venture creation. Experimental or quasi-experimental designs comparing technology-enhanced programs with traditional

curricula could provide rigorous evidence of impact.

Finally, future research should evaluate the effectiveness of policy frameworks in supporting sustainable entrepreneurship ecosystems. Policy impact assessments and econometric modelling could examine whether incentives such as green subsidies, tax relief, or public–private partnerships significantly influence SME sustainability outcomes. A guiding research question may be: To what extent do sustainability-focused policy interventions moderate the relationship between entrepreneurial education and SDG-aligned business performance?

By adopting longitudinal, comparative, and mixed-method approaches, future studies can move beyond conceptual discussions and generate robust empirical evidence on how entrepreneurial education, institutional environments, and policy frameworks collectively shape sustainable entrepreneurship in South Africa.

CONCLUSION

This study unequivocally underscores the pivotal role of entrepreneurial education in fostering sustainable entrepreneurship and advancing the United Nations SDGs in South Africa. The findings confirm that universities are not only providing entrepreneurs with essential knowledge and skills but are also shaping a mindset that prioritizes sustainability in addressing urgent socio-economic and environmental issues. Through the successful integration of sustainability principles into curricula, university-business collaborations, and the

tangible contributions of graduates to sustainable practices, this study highlights the transformative impact of entrepreneurial education on small businesses and their alignment with SDGs.

The alignment with established theoretical frameworks, such as the TBL and HCT, reinforces the critical need for education that incorporates social, environmental, and economic considerations into business practices. The case studies presented offer compelling evidence of how university-trained entrepreneurs are effectively implementing sustainable solutions in areas ranging from renewable energy to eco-friendly production methods. These entrepreneurs are not only creating profitable businesses but are also contributing to the realization of SDGs, demonstrating the powerful potential of education to drive positive global change.

Looking ahead, the continued success of sustainable entrepreneurship in South Africa hinges on strengthening collaborations between universities and small businesses, strengthening policy frameworks that support sustainable practices, and continuously innovating educational approaches. While challenges persist, this study firmly establishes that entrepreneurial education is the cornerstone of nurturing a new generation of entrepreneurs capable of balancing profit with purpose. These entrepreneurs will be instrumental in driving both economic growth and sustainable development, making invaluable contributions to the achievement of the SDGs in South Africa and beyond.

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