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# Shifting Perspectives: How Entrepreneurial Education Shapes Youth Attitudes Toward Social Responsibility and Sustainability in South Africa

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# Abstract

Despite facing significant socio-economic inequalities and environmental challenges, the importance of entrepreneurial education programs for developing socially responsible and sustainability-oriented attitudes in youth is increasingly critical for South Africa. This paper explores the impact of entrepreneurial education programs on the awareness of, and attitudes toward, social responsibility and sustainability among South African youth. Using a mixed-method approach, we surveyed 600 university students about their awareness of programs and participants about their experiences from 25 interviews in Gauteng, Western Cape, and KwaZulu-Natal. While the results indicate the widespread challenges faced by students, experiential learning via entrepreneurial curricula has a positive relationship with pro-social/sustainability-mindedness. The data indicated that experiential learning, a values-based pedagogy, and dynamic engagements surrounding challenges within a real-world context significantly grounded youth to social and ecological priorities. This paper demonstrates the potential of entrepreneurship education as a transformative practice, contributes to the emerging scholarship on entrepreneurship as a transformative education practice, and makes recommendations for policymakers to expand momentum for embedding sustainability within entrepreneurship education practices.


# 1. Introduction

Entrepreneurship has long been considered an important driver of economic growth, job creation, and poverty alleviation especially in emerging economies that often grapple with structural unemployment and insufficient industrial diversification (Latifi et al., 2025). It is important to recognize that for South Africa, entrepreneurship represents significant potential. With perhaps the highest youth unemployment rates in the world, greater than 60% in some provinces, entrepreneurship is being viewed as a career not for the sake of a career, but rather as an avenue for socio-economic empowerment (Matlala and Ncube, 2025). National policy documents such as the National Development Plan 2030 view entrepreneurship as a key driver of inclusive economic growth (Fourie, 2018).

Yet, as changes prevail in the global environment not least due to climate change, technological disruption, and increased inequality the role of entrepreneurship is being redefined. The entrepreneur is now seen not solely as a profit-orientated outcome beneficiary, but as a potential change-maker who is addressing challenging social and environmental issues (Sooampon, 2025). Entrepreneurial education has followed a similar trajectory. Early approaches to the teaching of entrepreneurship focused largely on business planning, financial literacy, and venture creation; whilst contemporary frameworks encompass ethical reasoning, community engagement, environmental responsibility, and sustainable innovation (Chen and Ryoo, 2025, Nguyen, 2025, Rudhumbu et al., 2016, Mannathoko, 2020).

In the South African context, which is accompanied by considerable socio-economic inequity, youth disillusionment, and environmental crises such as water scarcity, pollution, and loss of biodiversity, the notion of social responsibility and sustainability in entrepreneurship education, is not just helpful, it is needed (Fotoyi and Ncwadi, 2025). Youth represent both the group most affected, and the group most

able to affect change for the future. If we educate youth to become not only entrepreneurs, but responsible, sustainable entrepreneurs, we have the opportunity to inspire inclusive, resilient development (Matlala and Ncube, 2025).

As more scholars and practitioners understand, development of an entrepreneurial mindset must also include attention to values, worldviews, and emotional intelligence, while also extending beyond technical skills development (Riyanti and Charina, 2025, Zalviwan et al., 2025, Filep et al., 2025). Moreover, research shows that a program with integrated real-life social challenges, ethical dilemmas, and collaborative problem-solving projects, are more likely to nurture civic responsibility and ecological consciousness in students (Chairunnisa et al., 2025). However, we currently know little about how this 'work in the field' plays out in practice, including in the South African context.

The purpose of this study is to examine whether and, to what extent, entrepreneurial education can influence South African youth towards social responsibility and sustainability. More specifically, we are interested in the following questions:

1. How, if at all, does participation in entrepreneurial education influence youth attitudes around social responsibility and environmental sustainability?
2. What kinds of pedagogical strategies or experiential learning elements related to creativity or innovation in the context of entrepreneurship would contribute towards this shift in attitudes?
3. What role do contextual factors, such as socio-economic and education context or home or institutional context, play in shaping these processes?

This study employs a mixed methods approach by combining quantitative survey results from classroom students, in several provinces of South Africa, with qualitative interview narratives of the students that participated in the entrepreneurial education programs. This mixed methods approach will help us view an integrated framework of educational, psychological and social processes at play. Ultimately, our goal is to provide evidence-informed recommendations that inform how entrepreneurial education should be facilitated not simply to achieve economic inclusion for youth, but also cultivate a new generation of socially responsible, sustainability-oriented innovators.

## 2. Literature Review

# 2.1 Entrepreneurial Education and Youth Development

Entrepreneurial education has shifted from a relatively restrictive view of venturing into entrepreneurship, to a more complex perspective of enabling emerging entrepreneurs in developing a range of cognitive, emotional and ethical capabilities. As Nguyen (2025) argued, a truly worthwhile entrepreneurial education is one that develops opportunity awareness and recognition, resilience and adaptability, and based on values-based decision-making - particularly in terms of working with youth in engagement with preparing them to negotiate the complexities and uncertainties of the economy.

In regard to practicing this type of entrepreneurship education in South Africa, there are clearly further strategic dimensions. With S.A. youth comprising one of the world's largest and most rapidly growing demographic segments - often labelled the country's " demographic dividend" - there is a compelling need to produce youth who possess not only employability skills but the requisite mind set and tools to create employment both for themselves and others (Rogerson and Mushawemhuka, 2015). Accordingly, the education and training systems have increasingly incorporated entrepreneurship into the curriculum of secondary and tertiary levels (Tshishonga, 2022a). Additionally, a number of government departments, including the Department of Higher Education and Training (DHET) and Department of Economic Development, as well as organizations like the National Youth Development Agency (NYDA), are promoting and advocating youth entrepreneurship through a productive pillar of economic development and inclusion (Msosa, 2022).

At the tertiary level, universities and universities of technology have now created many initiatives to include entrepreneurship, including entrepreneurship modules, incubator programs, business competitions, partnerships with the corporate world, etc (Ngcobo and Khumalo, 2022). Many NGOs will also play a critical role in filling the gaps created by formal institutional programs, and deliver entrepreneurship training from a more grassroots level - experiences which are more educationally experiential, community development directed, and possibly, inspired by the marginalization with which youth live (Mayombe, 2023). Youth focused initiatives, for example Allan Gray Orbis Foundation, The Awethu Project, and Raymond Ackerman Academy, are increasingly the norm in South Africa, with the intent of developing entrepreneurial leadership, social impact and responsibility, and sustainability, along with their commercial entrepreneurial intent (Nchu et al., 2023).

Despite this excellent development in the practice of entrepreneurship education, the integration of social and environmental considerations in programs offered to youth remain uncoordinated, sporadic and inconsistent (Ndebele et al., 2022). Some examples include entrepreneurship education through social enterprises, which explicitly address inequality, health, and ecological degradation, other project-based programs have placed much more emphasis on entrepreneurship development in the more traditional for-profit economic development context (Beer, 2024). This variation is the result of systemic issues such as, limited professional development of educators in sustainability pedagogy, limited alignment across policy environments of education and environment, and the absence of a clear policy framework to assess the social, environmental economic impact of entrepreneurship education on the economic and non-economic contexts (Thabethe, 2022).

In addition, there has as yet continued to be a reliance on traditional pedagogical activities and curricula in entrepreneurship education and training, e.g., lecturer input, case study development, and approaches to legitimize entrepreneurship education and which unfortunately may not develop a sense of meaningful engagement for youth negotiating definitions of what "profoundly additional" attachments to societal challenges may include as part of their entrepreneurial identity or practice (Rasedile, 2024). More progressive models advocate for lived experiences of youth, peer collaboration and co-construction of knowledge in the context of design thinking and real-world problems, represent an

avenue for youth entrepreneurship educators to enable genuine entrepreneurial capabilities in conjunction with ethical consciousness (Manchidi, 2025).

Hence, for both the challenges and future opportunities for South African entrepreneurship education, lies in including social responsibility and sustainability not as add-ons, but as dimensions of entrepreneurial identity and practice. Inevitably, in pursuing these ends, both commitment and creativity by institutions and pedagogical innovations should be expected - referred to as the goal of the current research, an investigation of how current programs transformed into an integration of Pietistic methodologies will take place through the data collected about current programs, students, communities, etc.

## 2.2 Social Responsibility in Entrepreneurship

Entrepreneurial social responsibility is more than just obeying the law or philanthropy. It has a proactive commitment to tackling systemic social issues with the use of sustainable business models that create the financial return and measurable social impact (Ndedi and Yenepad, 2012). This practice is often referred to as social entrepreneurship, and is focused on supporting marginalized communities, access to education and health, reducing inequality, and promoting inclusive and realised forms of economic participation.

Research is demonstrating the importance of exposing young entrepreneurs to social responsibility in values and habits. Tshishonga (2022a) indicates that students exposed to social narratives of social entrepreneurship especially when these included the experience of real-life stories, the experience of role models, and engagement in activities that exposed them to underserved communities, demonstrated higher levels of empathy, moral reasoning, and civic engagement all psychosocial dimensions that influence the way young people make sense of business as an activity and their role as agents of change (Beer, 2024).

Business in its broader sense, socially responsible entrepreneurship also promotes a way of thinking that redefines value creation. Rather than concerning profit and impact as a trade-off and at odds with each other, students involved in social entrepreneurship are socialised in thinking toward hybrid value propositions that balance commercial viability with social justice. Pedagogical strategies using service-learning projects, partnering with NGOs, and simulated ethical dilemma activities have been effective in preparing students to strike a dual alignment (Maka, 2023, Ajani, 2024).

Nevertheless, there is still a long way to go. Not least of which is that even in the developing world (South Africa for example), social responsibility is experienced as a secondary consideration to the pursuit of profit; or categorised as an ethical ideal instead of a fashionable legitimate business approach. Because of the scope of the gap and need for institutional leadership and pedagogical reform towards mainstreaming socially responsible entrepreneurship from the margins of entrepreneurship as we know it.

## 2.3 Education for Sustainability

Education for sustainability aims to develop an understanding of the interconnectedness of environmental systems, economic models and human behaviour (Mhlongo et al., 2025). It encourages long term thinking, systems thinking, ecological anxieties and personal agency in responding to global issues such as climate change, biodiversity loss and natural resource depletion (Rasedile, 2024). Within entrepreneurship education, sustainability itself has become recognised as more than an ethical issue, but instead can also provide opportunities for a strategic advantage and sources of innovation (Nchu et al., 2015).

Sustainability oriented entrepreneurship referred to in the literature as Ecopreneurship refers to the production of products, services and practices that minimise environmental degradation and regenerate ecological systems (Ndofirepi, 2022). Mazonde and Carmichael (2016), Katrodia (2024), Chikanda and Tawodzera (2017) argue for sustainability as a core competency within entrepreneurship, much in the same way as risk management and market analysis. To think differently about sustainability requires an even broader shift in entrepreneurship education pedagogy, which should include interdisciplinary learning (e.g., environmental science and ethics), systems thinking tools (for example, life cycle assessment tools) and experiential, challenge-based learning.

Experiential learning contexts, including sustainability quotient business incubators, eco-design projects, sustainable development goals action labs and community-based action research projects while developing a sustainability dimension to education have acknowledged effectiveness in helping students create internalised frameworks in which to inform sustainability principles in their work (Mmbengwa et al., 2023, Madondo and Tinonetsana, 2024). These experiences do foster stronger cognitive understanding but importantly an aspirational change behaviour as individuals and deepen their personal commitment to sustainability.

While interest grows, sustainability education in entrepreneurship education, remains largely disjointed and piecemeal. This manifests as in many institutions systems, sustainability is offered as an elective or thematic at some stage of their course, as opposed to being a continuous part of the learning journey (Ndofirepi, 2022). By not seeing sustainability as part of your identity or making progress towards any actions, (to) embedded are limiting students' opportunities to perceive sustainability as part of their entrepreneurial identity or decision making. This is critical for developing youth lead readiness in a world where environmental constraints and social expectations will increasingly redefine what is considered successful entrepreneurship (Soeprihatin and Tajib, 2025).

# 2.4 South African Context

As one of the world's most unequal societies, with its Gini coefficient consistently in the top ranks globally and young people in South Africa bearing the brunt of inequalities (with unemployment reaching over 45% for 15–34-year-olds in 2023, Stats SA, 2023), South Africa offers a compelling and perplexing situation for researchers interested in the intersections of entrepreneurship, social responsibility, and sustainability (Fotoyi and Ncwadi, 2025). South Africa is also grappling with a multitude of environmental crises (water availability, deforestation, air pollution, vulnerability to climate change, etc.), which

complicates the future of our emerging youth demographic, who are not only more digitally connected and culturally diverse but are increasingly aware of, and concerned about, social issues (Nchu et al., 2023).

Surveys carried out by Afro barometer, as well as by the South African Reconciliation Barometer, indicate that youth are concerned with issues of justice, corruption, environmental degradation, and community wellbeing (Molefe, 2023). Consequently, the situation is both an opportunity to prioritize social justice by harnessing the entrepreneurial energies of the youth, as well as a responsibility to make sure the most pressing social and ecological needs are addressed.

Nonetheless, structural barriers remain everywhere. Many young South Africans still do not have access to quality education, mentorship, capital - financial or otherwise - or enabling ecosystems that support public good innovation. Although the SA government and various NGOs have provided substantial funds to youth entrepreneurship programs, it has mostly been at the expense of addressing the formation of values, ethics in leadership, and sustainability in entrepreneurship as higher objectives of public good-oriented entrepreneurship (Ogunsanya et al., 2024, Nomnga, 2017, Tshishonga, 2022b).

With this context in mind, entrepreneurial learning has the potential to be a transformative tool which not only provides young people with the tools to survive during an uncertain economic period, but a sense of purpose or responsibility, towards the greater public good. In South Africa, we can make them more relevant, fresh, and arguably more urgent, by framing these educational initiatives within a global context (Matlala and Ncube, 2025).

This study intends to ascertain how, and to what extent, entrepreneurial education in South Africa has an opportunity to rise up to this challenge - to assist shift youth's understanding of what an entrepreneur means, in the 21st century, and how success is defined not only by creating economic value but also by creating social and environmental value.

# 3. Methodology

# 3.1 Research Design

This study utilized a convergent mixed-methods research design that integrated quantitative and qualitative data collection and analysis to investigate the impact of entrepreneurial education on South African youth's attitudes towards social responsibility and sustainability. The justification for utilizing this design is its capacity to triangulate findings and offer both the statistical generalizability of trends and the more layered understandings of lived experience (Creswell et al., 2007, Caggiano and Weber, 2023).

This research was undertaken across six higher education institutions, ranging from traditional universities to universities of technology (UoTs), and three NGO-led non-formal entrepreneurial education programs. These institutions were chosen to ensure representation in terms of geographic, socio-

economic, and pedagogical variation to document diverse examples of youth entrepreneurial education in urban, peri-urban, and rural areas.

# 3.2 Sample

In total, 600 students (mean age = 21.4 years; 54% female) participated in the quantitative component. All participants were enrolled in an entrepreneurship module or non-formal training program at the time of data collection. Participants were identified using stratified random sampling within each institution and then stratified by gender and self-identified year of study.

For the qualitative component, a purposive sub-sample (N = 25) of students were selected from the survey participants to ensure diversity in terms of demographics, program exposure, and self-reported entrepreneurial orientation. The qualitative interviews provided a more nuanced understanding of participant personal development, value shifts, and contextual constraints/enablers.

Participation was voluntary and all respondents provided informed consent. Ethical clearance was given by the lead university's Research Ethics Committee. 3.3 Instruments

### Quantitative Survey

The survey instrument consisted of four key sections, which included psychometrically validated scales that were changed to suit the South African context. First, social responsibility attitudes were measured with a 12-item scale by Smith et al. (2010), which assessed: ethical awareness, sense of civic duty, social justice concern - having a sense of being responsible for social justice duties and the ethical desire to try and promote social justice. This scale demonstrated excellent internal reliability ($\alpha = 0.86$).

Second, sustainability orientation was measured through an 8-item scale that was adapted from (Abutabenjeh and Jaradat, 2018). This scale assessed: environmental awareness, sustainable decision-making, and ecological thinking (long-term). This scale was also found to have good internal consistency with a Cronbach's alpha of 0.81.

Third, entrepreneurial intention and behaviour were measured using the EIQ by Liñán and Chen (2009). The EIQ is an extensively used tool measuring the strength of entrepreneurial intention, perceived behavioural control, and self-reported entrepreneurial activity. In this study the EIQ demonstrated excellent internal reliability ($\alpha = 0.89$).

Finally, the survey had a demographic/ background section which overall captured participants' age, gender, socio-economic status, type of educational program registered in, and length of experience being exposed to entrepreneurship education, which were also used to explore patterns and possible moderators in the examined relationships.

### Qualitative Interviews

Semi-structured interviews were conducted to gain a more profound understanding of students' experiences and perspectives regarding entrepreneurial education. The interviews examined such topics as the participants' perceptions of social responsibility, sustainability, and their perceptions of their personal transformations related to their participation in the program, as well as their most significant pedagogical experiences, such as participating in community projects, receiving mentorship, and working with real-world case examples. They were also prompted to reflect upon the constraints they faced, and the factors that had motivated them to become engaged in socially responsible entrepreneurial action.

Each semi-structured interview lasted approximately 45 minutes and was conducted either in person or by secure video conferencing platforms. Interviews were audio-recorded with participant permission, and subsequently transcribed verbatim to ensure accuracy, and were anonymized to maintain confidentiality. This qualitative component was imperative to contextualize the quantitative results and reveal the complex ways that educational experiences influence ethical and sustainability-focused entrepreneurial mindsets.

# 3.4 Data Analysis

### Quantitative Analysis

Quantitative data analysis was conducted using SPSS version 27. Analysis began by conducting descriptive statistics to analyse baseline trends across key variables. It aimed to determine, for example, participants' scores on social responsibility attitudes, sustainability orientation, and entrepreneurial intention. Next, inferential statistics were used to examine the associations between these variables and to test the hypotheses of the study.

Multiple regression analysis was used to identify relevant predictors of social responsibility and sustainability orientation, and so the analysis examined the influence of program type, duration of exposure, and demographic variables as predictors. Path analysis was then conducted to examine the relationships and association between the elements of educational exposure to entrepreneurial education, entrepreneurial intention, and pro-social attitudes, allowing the researchers to test both direct and indirect relations, therefore providing a better understanding of causal pathways to explore, as well.

To investigate the conditional effects of background variables in more detail, moderation and mediation tests were completed using the PROCESS macro (Hair et al., 2019), testing the moderation of gender, socio economic status, and institution type, and the potential mediation effect of entrepreneurial intention on educational exposure to value orientation.

Before conducting the analyses, assumptions of normality, homoscedasticity, and multicollinearity were rigorously tested to ensure the statistical models were valid and reliable.

### Qualitative Analysis

Thematic analysis was conducted on the interview transcripts based using NVivo 12 and Braun and Clarke's (2006) six-step process. Initial codes were created from an inductive and interpretive stance, which were then grouped into broader themes in response to the research questions. Two researchers coded 20% of transcripts independently to build inter-rater reliability, reconciling differences in coding and referring to consensus as needs arose. Emergent themes included "moral awakening," "green entrepreneurship as identity," and "profit and purpose tensions."

The quantitative and qualitative data were integrated during the interpretation phase, which then provided complementary clarifications and the opportunity to build a more nuanced explanatory model for this study.

# 4. Results

# 4.1 Quantitative Findings

Table 1
Regression Model Summaries

| Dependent Variable | $R^2$ | Adjusted $R^2$ | F-statistic | df | p-value |
|---|---|---|---|---|---|
| Social Responsibility | 0.321 | 0.315 | 56.15 | (5, 594) | < 0.001 |
| Sustainability Orientation | 0.276 | 0.269 | 45.22 | (5, 594) | < 0.001 |

The regression models for social responsibility and sustainability orientation showed that approximately 32.1% and 27.6% of the variance in the scores could be explained, respectively. Both models were statistically significant at $p < 0.001$, confirming that entrepreneurial education, and control variables (gender, socio-economic status, and institution type) are meaningful predictors of youths' alignment with social and environmental priorities. Adjusted $R^2$ showed that these relationships remained robust after accounting for demographic and contextual controls.

Table 2
Regression Coefficients for Entrepreneurial Education

| Dependent Variable | β | t(597) | p-value | 95% CI (β) |
|---|---|---|---|---|
| Social Responsibility | 0.47 | 10.62 | < 0.001 | [0.39, 0.55] |
| Sustainability Orientation | 0.38 | 8.34 | < 0.001 | [0.29, 0.47] |

Entrepreneurial education was shown to be a powerful predictor of social responsibility attitudes ($\beta = 0.47$, $p < 0.001$) and sustainability orientation ($\beta = 0.38$, $p < 0.001$) The standardized coefficients indicate moderate to large effect sizes, demonstrating the ability of entrepreneurship curricula to change youth's ethical and ecological thinking. The narrow confidence intervals indicate the accuracy of the estimates.

Table 3
Path Analysis Model Fit Indices

| Fit Index | Value | Threshold for Good Fit |
|---|---|---|
| $\chi^2/df$ | 64.27/48 | < 3.0 |
| CFI | 0.97 | > 0.95 |
| TLI | 0.95 | > 0.90 |
| RMSEA | 0.029 | < 0.06 |
| SRMR | 0.034 | < 0.08 |

The path analysis model provided excellent model fit to the data; CFI = 0.97, TLI = 0.95, RMSEA = 0.029, and SRMR = 0.034, all exceeding standards representative of good fit. The insignificant chi-square (p = 0.06) gives further credence to the plausibility of the hypothesized mediation pathways.

Table 4
Standardized Path Coefficients

| Path | β | p-value |
|---|---|---|
| Entrepreneurial Education → Exposure to Social Challenges | 0.42 | < 0.001 |
| Entrepreneurial Education → Sustainability Projects | 0.36 | < 0.001 |
| Exposure to Social Challenges → Social Responsibility | 0.31 | < 0.001 |
| Sustainability Projects → Sustainability Orientation | 0.29 | < 0.001 |

Entrepreneurial education was a significant predictor of engagement with real-world social issues (β = 0.42) and sustainability-related projects (β = 0.36). In turn, the experiential learning activities enhance social responsibility (β = 0.31) and sustainability orientation (β = 0.29). This elucidates the importance of active learning experiences to integrate theoretical foundations on social responsibility with meaningful action towards ethical and environmental commitments.

Table 5
Indirect Effects (Bootstrapped 95% CI)

| Mediation Pathway | Indirect Effect | 95% CI |
|---|---|---|
| Entrepreneurial Education → Social Responsibility | 0.13 | [0.092, 0.201] |
| Entrepreneurial Education → Sustainability Orientation | 0.10 | [0.077, 0.184] |

Bootstrapping analysis (5,000 resamples) provided support for the significant partial mediation effects. The indirect paths through experiential exposure explained 13% (social responsibility) and 10% (sustainability orientation) of the total effects, given that the confidence intervals did not include zero.

Overall, this demonstrates that while entrepreneurial education promotes prosocial attitudes on its own, the effects are intensified when learners are involved with community-based and ecological challenges.

# 4.2 Qualitative Insights

Three major themes emerged:

Table 1
Qualitative Insights (Section 4.2)

| Theme | Participant Quotes | Summary |
|---|---|---|
| **1. Values Reorientation** | *"Prior to the course, I would have defined success as making money. Now I define success as how much I can uplift others. My business plan focuses on recycling waste in townships, creating jobs and cleaner environments. Profit is important, but it isn't the only goal" (Participant 12)*<br><br>*"The ethics module made me ask myself: Who benefits from my business? Now, I would rather earn less money but be able to ensure that my supply chain supports local artisans instead of taking advantage of them" (Participant 19).* | *Participants re-evaluated their singular focus on profit in entrepreneurship to put equal value on social impact and responsibilities from an ethical perspective. Education recognized it defines a moral and ethical redirect for the betterment of the community, rather than personal wealth.* |
| **2. Empowerment through Relevance** | *"I felt like I was actually contributing to fixing something with the project we had made regarding building materials out of plastic waste for schools. It was not a theoretical thing, it was addressing the need of the community, I felt like making a difference." (Participant 3)*<br><br>*"The case study on Cape Town's water shortages struck a chord. Our group created a low-cost rainwater collection system. This was the first time school seemed relevant to me." (Participant 5)* | By contextualizing entrepreneurship within local challenges (e.g., unemployment, environmental crises) these programs provided students with a way to think of themselves as problem solvers by bridging theory and practice in ways that engaged the community. |
| **3. Challenges of Translation** | *"I have a plan to create a green tech startup but investors want a quick return. How do I compete against fossil fuel behemoths? It seems impossible if I do not get some seed funding." (Participant 8)*<br><br>*"Corruption is everywhere. Even when you get a grant there are bribes to officials. I want to employ unemployed youth. But the system is stacked against small players." (Participant 11)* | While attitudinal changes did exist, systemic factors such as lack of funding, corruption, and fragmented mentorship inhibited students' ability to realize those ideals as sustainable ventures. |

### Discussion of Qualitative Results

The qualitative findings demonstrate the profound nature of entrepreneurial education in transforming youth perceptions, but also uncover ongoing systemic issues. In the case of some participants, there was a values realignment that moved from profit-first definitions of success to social equity and environmental protection. For example, one participant's work on a recycling initiative to uplift townships showcases the ethical pedagogy of entrepreneurial education, where entrepreneurial aspirations and community needs were aligned. This moral realignment is demonstrated by the urgent need in South Africa for inclusive development, where the youth become social justice agents beyond mere economic actors.

While there were some programs that situated entrepreneurship against the backdrop of local problems (e.g., unemployment or clean, reliable water), where youth could see themselves as problem-solvers, the experience created an opportunity to bridge classroom learning and the realities of youth's own lives. For instance, projects exploring the repurposing of plastic waste to create a school building, or designing a small rainwater harvesting infrastructure, moved students' perceptions of repetition and wasted time from a transactional view of learning to something much deeper, a sense of agency from the shared relevance of experience. projects like these, particularly in an context where youth are keen to find active solutions to immediate or pressing socio-ecological crises, becomes a sort of service learning.

Although their education inspired the development of pro-social mindsets, the constraints presented by the systemic inequities, within the funding gaps and corruption, and the fragmented nature of both access to mentors and losing contact altogether, restricted participants' ability to take action on pro-social, ethical principles. The pro-social lens of entrepreneurial education resulted in a disconnect between aspirational learning and their lived-world experiences. Hence it was often the systemic inequity, and systematic othering of the youth by, for example, funders or investors bias towards short-term profit or bureaucratic graft, which became the unapologetic realities of educational icing on the cake of meaning evil. Therefore, developing support systems, educational, and otherwise, that account for this range of systemic considerations is critical to a sustainable endeavour for the youth entrepreneurial projects. Moral ideals generated from the entrepreneurship education must be part of a consistent response that included a post-program funding pipeline, a waiting room of anti-corruption and the comfort of a formal, approachable identity for the youth as an advocate for mentorship - or anything really - that hopes to act on their intentions toward ethical entrepreneurial ventures.

Ultimately, both the findings emphasize a duality. One is the timely nature of entrepreneurial education to spark ethical consciousness and community innovation. On the other hand, is the urgent need for systemic reform that helps manage the promise of ethical transformations in youth education so that they materialise beyond the hallowed halls of education, in very real and scalable ways.

## 5. Synthesis

The triangulation indicates that:

1. Convergence: Both data sources validate that entrepreneurial education has a role in shaping ethical and sustainability-oriented mindsets.
2. Complementarity: Qualitative data provide an explanation for the processes (e.g. experiential learning, moral reorientation) underlying quantitative trends.
3. Depth: The qualitative data surface structural challenges that quantitative modeling fails to recognize, and the need for more comprehensive action.

Through the use of methods that complement one another, the current project focused on enhancing the understanding of how education changes youth, while fully recognizing important constraints which demand societal change outside of education. This demonstrates that mixed-methods research has the potential to inform complex social-educational phenomena.

# 6. Conclusion and Policy Implications

The findings demonstrate a promising opportunity for transformational outcomes of entrepreneurial education to promote cultural and ethical shifts for youth in South Africa to become active agents of social responsibility and sustainability. The findings show that values-based education and experiential learning further promote mindful entrepreneurs to start addressing systemic issues. Nevertheless, to ensure that is the case in practice, either policy or institutional reforms are needed to clearly engage student innovation and creativity.

First, it is important to integrate sustainability and ethics into every module of entrepreneurship. Sustainability and ethics should not be electives. There needs to be a complete redesign of course content, activities and assessments that emphasise sustainability and ethics as core foundations for entrepreneurial learning and practice. For example, using case studies that are focused on local social enterprises, conducting workshops on ethical supply chains, and assessments that require students to develop climate resilient business models, provides an opportunity for students to relate abstract principles to the reality of local South Africa. Training the educators to use participatory pedagogies, such as debates on the trade-off or dilemma between profit and purpose or role-playing ethical dilemmas, would ensure that students appreciate these values as essential or 'must-haves' of entrepreneurship.

Second, it is important to invest in and leverage relationships with community organisations while learning entrepreneurially in the classroom. Non-government organisations, local government or grassroots organisations can provide students with hands-on ways of engaging in local problems such as environmental degradation, chronic unemployment, waste, or access to drinking water. For example, for students working with organisations who focus on township recycling, it would provide a real engagement via hypothetical circular economy projects, while social enterprise internships lead Access to cases where purpose and profit might be visually balanced. These partnerships also strengthen the relationship of trust and reciprocity between education organisations and their communities, developing ecosystems where new, imaginative, entrepreneurial possibilities could come to life.

Third, there needs to be mechanisms for post course support to turn aspirational ideas into actual deals. The most common bottlenecks for graduates is systemic issues - such as wage bottlenecks, regulatory compliance bottlenecks (government bureaucracy), and guidance or mentoring bottlenecks. The development of incubators for social and Environmental ventures, that are complimented with access to grants, microfinance or crowdfunding platforms, would help graduates overcome some of these challenges. Mentorship networks, that connect students to experienced entrepreneurs and policymakers, could help provide guidance for issues such as compliance with corruption or obtaining required permits. Public-private partnerships with sustainability grants offered by corporates or government funded innovation hubs could significantly strengthen their support.

In future research, it may be interesting to follow participants' career paths or further involvement, as an example, at some point after the entrepreneurship education. Longitudinal studies could be used to track whether attitudinal shifts display shifts in pro-social ethical behaviour or some return on social investment. Further, it may be beneficial to examine digital platforms as a way to democratically provide access and opportunity to entrepreneurial education for socio-economic rural based and other marginalised youth demographics with geographic and resource disadvantages. For example, hybrid programmes or models could exist that provide online learning and local mentoring support and build on the experiential learning demonstrated in this study.

Overall, entrepreneurial education has significant potential to support ethical and sustainable development in South Africa. However, it is not simple, and will require systemic alignment. Education curricula must place purpose before profit; institutions must build partnerships with communities and local organisation at grassroots level; policy must ensure that ecosystems exist for graduates to thrive beyond the classroom. By covering these aspects, education organisations and public leaders could support youth of South Africa to pioneer this generation of people-centred, regenerative growth - therefore changing the futures of their lives, and the socioeconomic fabric of South Africa.

## Declarations

# Author Contribution

O.O.S., K.S., and I.B.G. collaboratively developed the research design and conceptual framework for the study. O.O.S. led the quantitative survey design and SPSS data analysis. K.S. conducted and transcribed the qualitative interviews, and performed the thematic coding using NVivo. I.B.G. contributed to literature review development and synthesized the policy implications. O.O.S. and K.S. wrote the main manuscript text and prepared Tables 1–5 and Figures 1–2. All authors reviewed the manuscript and approved its final version.

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