






Exploring the Role of Entrepreneurship Education in Boosting Innovation among Students - A Case Study of Two KwaZulu-Natal Universities

Mtshali Thabo Wonder¹ , Mashau Pfano²  &
Gamede Vangeli Wiseman¹ 

¹ University of KwaZulu-Natal, South Africa.

² Durban University of Technology, South Africa.

ABSTRACT

The South African unemployment rate currently is at 32.9%. The labour market is struggling to create opportunities and failing to counteract unemployment with relevant skills. The covid-19 pandemic resulted in more people losing jobs which then contributed to the increase in unemployment. There have been calls for the government to implement strategies that would reduce poverty which include developing innovative entrepreneurs at the tertiary level. The article therefore focused on how to expand entrepreneurship education in South African universities to strengthen the economy and create job opportunities in the country. The research paper utilised a mixed-method approach. The quantitative data was collected using questionnaires on postgraduate students, whereas the qualitative data was collected from academics. The findings were analysed using the latest version of SPSS. The sample was made up of 368 postgraduate students, 4 academic staff from the University of KwaZulu-Natal, 346 postgraduate students, and 4 academic staff from the University of Zululand. The findings revealed that expanding entrepreneurship education will stimulate entrepreneurial mindset and innovation in students. However, students argued that universities do not have adequate infrastructure and resources to support innovation and entrepreneurship education. On the other hand, academic staff believed that higher education must have an active role in introducing and promoting entrepreneurship education. The paper recommends entrepreneurship education must be introduced across all colleges, this was noted from the contribution made by academic staff and postgraduate students. This paper provides strategies for stakeholder engagement in encouraging entrepreneurship to curb the increasing unemployment rate in South Africa.

Correspondence

Mashau Pfano
Email: PfanoM1@dut.ac.za

Publication History

Received: 3rd October, 2024

Accepted: 23rd November, 2024

Published online:

30th December, 2024

Keywords: Unemployment, Postgraduate, Higher Education, Innovation, Entrepreneurship

INTRODUCTION

The pandemic resulted in more people losing jobs which then contributed to unemployment. These difficulties indicate that people are facing challenges in getting decent jobs due to a lack of skills. Byrne et al. mentioned that youth do not regard entrepreneurship as a career due to the poor

presentation of entrepreneurship by institutions.¹ In the State of the Nation Address in 2021, the President mentioned the graduate unemployment rate is 9.3% in South Africa.² In addition, the President mentioned entrepreneurship through innovation and the creation of new ventures could reduce the unemployment rate in South Africa. Introducing entrepreneurship education across colleges/ faculties could help universities produce graduates who think entrepreneurially.

Innovation is identified as the best method to increase competitiveness and productivity of the business sector while reducing challenges to economic growth.³ Innovation and entrepreneurship have their own meaning and literature however they are related. Various businesses have different drawbacks and advantages with innovation. Entrepreneurship education allows students to have good entrepreneurial intentions. It is believed that small businesses provide a conducive space for innovation that does not require large-scale production, but commitment from company members.⁴ Shane explains that innovation is a significant part of entrepreneurship, it involves creative business ideas and how to combine resources to exploit opportunities in the market. He further explains the dominance of innovation and entrepreneurship, and how it is used to creatively combine resources to exploit profitable opportunities.⁵ Hence, the South African government encourages youth and graduate entrepreneurship to minimise unemployment, the aim is to change students' attitudes towards entrepreneurship.⁶

It has been identified that those who take entrepreneurship education are creative, they create more ventures, take calculative risks and make higher investments in their business compared to non-academic entrepreneurs who are passive and resist change.⁷ A study by Gundry *et al.* discussed that entrepreneurship programs enable students to discover opportunities and new ideas that lead to innovation.⁸ The results from the study by Gundry *et al.* which was supported by Wei *et al.* showed that there is a positive relationship between entrepreneurship education and innovation.⁹ Robson *et al.* conducted a study focusing on strategic renewal, innovation and venturing. Their study revealed the importance of entrepreneurship, innovation, productive transformation process, combination of resources, risk-taking and proactiveness towards developing new technology, products, services, or new strategies.¹⁰ Shane agreed with Robson *et al.* in saying entrepreneurship and innovation must go hand-in-hand to enable multiple functions for business growth.¹¹ Smith and Woodworth said entrepreneurship and innovation must converge to strengthen the economy. This can be achieved by introducing innovation and entrepreneurship in all business school programs.¹² Introducing entrepreneurship to students may improve innovation, create new ventures, reduce unemployment and revive the economy in South Africa.

¹ Janice Byrne, Salma Fattoum, and Maria Cristina Diaz Garcia, "Role Models and Women Entrepreneurs: Entrepreneurial Superwoman Has Her Say," *Journal of Small Business Management* 57, no. 1 (2019): 154–84.

² "State of the Nation Address (SONA)," 2021, [https://www.tourism.gov.za/AboutNDT/Publications/State of the Nation Address by President Cyril Ramaphosa - 2021.pdf](https://www.tourism.gov.za/AboutNDT/Publications/State%20of%20the%20Nation%20Address%20by%20President%20Cyril%20Ramaphosa%20-%202021.pdf).

³ Cheryl Moses et al., "The State of Innovation in South Africa: Findings from the South African National Innovation Survey," *South African Journal of Science* 108, no. 7 (2012): 1–5.

⁴ Jean-Michel Sahut and Marta Peris-Ortiz, "Small Business, Innovation, and Entrepreneurship," *Small Business Economics* 42 (2014): 663–68.

⁵ Scott Shane, "Reflections on the 2010 AMR Decade Award: Delivering on the Promise of Entrepreneurship as a Field of Research," *Academy of Management Review* 37, no. 1 (2012): 10–20.

⁶ P. A. Igwe and A. Icha-Ituma, "A Review of Ten Years of African Entrepreneurship Research," *Research Handbook on Entrepreneurship in Emerging Economies.*, 2020.

⁷ Adnan Iqbal, Yahya Melhem, and Husam Kokash, "Readiness of the University Students towards Entrepreneurship in Saudi Private University: An Exploratory Study," *European Scientific Journal* 8, no. 15 (2012).

⁸ Lisa K Gundry, Laurel F Ofstein, and Jill R Kickul, "Seeing around Corners: How Creativity Skills in Entrepreneurship Education Influence Innovation in Business," *The International Journal of Management Education* 12, no. 3 (2014): 529–38.

⁹ Xingjian Wei, Xiaolang Liu, and Jian Sha, "How Does the Entrepreneurship Education Influence the Students' Innovation? Testing on the Multiple Mediation Model," *Frontiers in Psychology* 10 (2019): 1557.

¹⁰ Paul J A Robson, Helen M Haugh, and Bernard Acquah Obeng, "Entrepreneurship and Innovation in Ghana: Enterprising Africa," *Small Business Economics* 32 (2009): 331–50.

¹¹ Shane, "Reflections on the 2010 AMR Decade Award: Delivering on the Promise of Entrepreneurship as a Field of Research."

¹² Isaac H Smith and Warner P Woodworth, "Developing Social Entrepreneurs and Social Innovators: A Social Identity and Self-Efficacy Approach," *Academy of Management Learning & Education* 11, no. 3 (2012): 390–407.

Therefore this research aims to determine if entrepreneurship education knowledge can help boost innovation among students. The study further aims to provide strategies to expand entrepreneurship education to boost student innovation in South African universities. Allowing students to get entrepreneurship education will stimulate entrepreneurial intention, and increase the number of innovations, independent individuals, and successful business owners. Growing business start-ups will increase vacancies in the job market, and decrease unemployment which is a significant factor in economic growth. The study will look at qualifications offered by different institutions and suggest the inclusion of entrepreneurship education to help students obtain knowledge to create and maintain businesses. This will allow academics to engage with students to evaluate module content and suggest what should be done to improve the teaching and learning process. The Findings will allow academics, students, researchers, government officials and members of society to see entrepreneurship as a career, not a hobby. Innovation ideas will surface, and stronger collaborations will emerge. This could benefit society, universities and government since more independent entrepreneurs will be produced.

LITERATURE REVIEW

Universities around the world are shifting from being educational providers to entrepreneurial universities. As a result, universities have a major contribution towards innovation.¹³ The essential part of the transition is to develop a capacity towards knowledge commercialisation and an entrepreneurial mindset by inventing technology that will minimise manpower in the workplace and introduce new technology.¹⁴ Entrepreneurship education may introduce innovative initiatives to improve existing products to accommodate technology commercialisation and introduce stronger entrepreneurial elements in the market.¹⁵ In South Africa entrepreneurship is in an infant stage due to a lack of capital, support, and lack of skills.¹⁶ Youth entrepreneurship needs to be promoted to exist in digital marketing where most activities take place and advertising easily gets to potential clients.¹⁷ Innovation is creating more efficient or effective processes that will produce creativity. It is a driving force for solutions and ideas when improving products and services.¹⁸ Innovation may include discontinuing outdated services and using creative thinking to introduce efficient solutions.¹⁹ The link between innovation and entrepreneurship arises when exploiting opportunities, and combining resources with the aim of developing new technologies, products, and services.²⁰ Innovation and entrepreneurship must go hand in hand to allow sufficient resource allocation, commercialisation, and create strong associations with large companies for long-term investments.²¹

It is mentioned that Small, Medium and Micro Enterprises with relevant skills grow whereas Small, Medium and Micro Enterprises without appropriate skills find it difficult to grow.²² According to Booyens, it is worth considering Small, Medium and Micro Enterprises for their conclusive contribution in terms of facilitating change, introducing innovation and increasing competition among enterprises. She further mentioned that small businesses alleviate poverty by generating employment, adopting new technologies and providing space for innovative start-ups.²³ Radipere said

¹³ Poh-Kam Wong, Yuen-Ping Ho, and Annette Singh, "Towards an 'Entrepreneurial University' Model to Support Knowledge-Based Economic Development: The Case of the National University of Singapore," *World Development* 35, no. 6 (2007): 941–58.

¹⁴ Henry Etzkowitz and Chunyan Zhou, "Regional Innovation Initiator: The Entrepreneurial University in Various Triple Helix Models," in *Singapore Triple Helix VI Conference Theme Paper*, 2007, 1–25.

¹⁵ Wong, Ho, and Singh, "Towards an 'Entrepreneurial University' Model to Support Knowledge-Based Economic Development: The Case of the National University of Singapore."

¹⁶ Olawale Fatoki and Lynety Chindoga, "An Investigation into the Obstacles to Youth Entrepreneurship in South Africa," *International Business Research* 4, no. 2 (2011): 161–69.

¹⁷ Fatoki and Chindoga, "An Investigation into the Obstacles to Youth Entrepreneurship in South Africa."

¹⁸ Michael A Crumpton, "Innovation and Entrepreneurship," *The Bottom Line* 25, no. 3 (2012): 98–101.

¹⁹ Crumpton, "Innovation and Entrepreneurship."

²⁰ Sahut and Peris-Ortiz, "Small Business, Innovation, and Entrepreneurship."

²¹ Sahut and Peris-Ortiz, "Small Business, Innovation, and Entrepreneurship."

²² T. Chimucheka, "Entrepreneurship Education in South Africa," *Mediterranean Journal of Social Sciences* 5, no. 2 (2014): 403.

²³ Irma Booyens, "Are Small, Medium-and Micro-Sized Enterprises Engines of Innovation? The Reality in South Africa," *Science and Public Policy* 38, no. 1 (2011): 67–78.

entrepreneurship programmes in South Africa do not yield the desired outcome, this is caused by the traditional way of teaching.²⁴ Kroon and Meyer posit that experts in business and government agreed that entrepreneurship is important in determining the well-being of South Africans.²⁵

Productive entrepreneurship and innovation have attracted interest in the country, it is a birthplace of new ideas that place value in the economy.²⁶ Students are expected to have a job seeker mindset in their first year at the university, but they should be transformed by the entrepreneurship education curriculum to learning proficiency, innovation, and technology. In the past decade, graduates used to get jobs after obtaining a degree but recently this is no longer happening, this problem challenges the universities to adapt to this technological world by implementing new strategies that will equip students with the necessary skills to adapt.

The statement by the former president supports the initiative when he said, “*Entrepreneurship has been identified as a tool to stimulate the economy, reduce unemployment and introduce cutting-edge innovations to the market*”. In the 2017 State of the Nation Address (SONA), the former president mentioned that the South African economy can be revived by empowering small medium, and micro-sized enterprises.²⁷ The entrepreneurial opportunities are open to all citizens but require education, ambition, dedication, and goal-driven individuals.²⁸ The skills development component is one of the necessities required to give students exposure. Skills development workshops may create awareness and exposure to students and society holistically.²⁹

The significance of entrepreneurship education cannot be denied since it gives alternative career options, and provides various skills like leadership, marketing and management skills.³⁰ An additional form of encouragement was when the Department of Higher Education and Training together with the Department of Small Business Development started giving support to small businesses through universities Incubate by promoting commercial start-ups and social enterprises at the universities.³¹ The Department of Higher Education and Training stated that tertiary institutions are responsible for developing students’ knowledge like negotiating skills, networking skills and risk-assessing skills.³² Higher education institutions should equip students with skills external and internal skills to run a business. The external content deals with trade associations, customers, media, landlords, consultants, suppliers and sourcing of capital.³³ Whereas internal content deals with hiring of staff, training, supervising, motivating, daily operations of a business and disciplinary hearings of employees.³⁴

The low total entrepreneurial activity (TEA) is a threat to the economy; therefore, the South African government, universities, and well-established businesses are helping Small, Medium and Micro Enterprises with skills to change the total entrepreneurial activity of South Africa.³⁵ Steenekamp *et al.* discussed the significance of promoting good grades at an early age, schools must encourage scholars to get good marks to get access to tertiary institutions. They further said tertiary institutions provide more knowledge, skills and training that could develop an entrepreneurial mindset compared

²⁴ Simon Radipere, “South African University Entrepreneurship Education,” *African Journal of Business Management* 6, no. 44 (2012): 11015.

²⁵ J Kroon and S Meyer, “The Role of Entrepreneurship Education in Career Expectations of Students,” *South African Journal of Higher Education* 15, no. 1 (2001): 47–53.

²⁶ Cecile Nieuwenhuizen, *Entrepreneurship: A South African Perspective* (Van Schaik Publishers, 2009).

²⁷ Lesiba Kekana, “Julius Malema Asks for Advice from Thabo Mbeki about Zuma,” November 3, 2017, <https://www.youtube.com/watch?v=INDXixxKPbI>.

²⁸ Michael Naughton and Jeffrey R Cornwall, “Culture as the Basis of The Good Entrepreneur.,” *Journal of Religion & Business Ethics* 1, no. 1 (2009).

²⁹ Myres Kerrin, M Anastacia Mamabolo, and Tumo Kele, “Entrepreneurship Management Skills Requirements in an Emerging Economy: A South African Outlook,” *The Southern African Journal of Entrepreneurship and Small Business Management* 9, no. 1 (2017): 1–10.

³⁰ N Ahmad and R Seymour, “The Word Entrepreneur Itself Derives from the French Verb Entreprenre, Meaning to Undertake,” *Statistics* 16 (2006): 1–22.

³¹ Z. Fields and L. Kunene, *Youth Entrepreneurship Learning Challenges (Final 2)* (Durban: UKZN, 2017).

³² Department of Higher Education and Training, “National Framework for Academics as University Teachers,” 2018.

³³ William Sidney Barry, *Airline Management: Business Management in Transport 3* (Routledge, 2017).

³⁴ Barry, *Airline Management: Business Management in Transport 3*.

³⁵ Chimucheka, “Entrepreneurship Education in South Africa.”

to high school education.³⁶ Entrepreneurship has been identified as a tool to save the collapsing economy in the country, hence more researchers are looking at entrepreneurship education to promote productive and innovative businesses. Kunene indicates that entrepreneurship education can be beneficial and enhance certain behaviours.³⁷ Stokes *et al.* further emphasised that entrepreneurship education can be used to develop attributes and skills through learning, reduce unemployment and contribute to South African economic growth.³⁸

Entrepreneurship education is more effective when practical examples and interactive methods are used when teaching the programme.³⁹ Entrepreneurship education may allow different stakeholders, Alumni, companies, or business owners to form incubation facilities where students learn additional skills before facing the outside world.⁴⁰ The smooth incorporation of entrepreneurship education may connect students and external business firms to transfer knowledge and technology innovations.⁴¹

Universities are crucial instruments in facilitating a knowledge-based economy, universities contribute to social development and increase the regional economy through knowledge sharing. Information sharing between government, universities, industries and civil society is beneficial to the society.⁴² Entrepreneurship education contributes to innovation, gross domestic product, and job creation and reduces unemployment as it allows the development of new ventures, and collaborations among industries, government, and universities.⁴³ The collaborations give students opportunities to learn new skills, get practical skills, meet mentors, expand their network and become motivated.⁴⁴ These seminars, webinars and external collaborations bring cutting-edge innovation to the market and have a positive impact on the economy.⁴⁵ In this context, the purpose of the study is to expand entrepreneurship education to have a positive impact on students' development.

Cuervo *et al.* discussed that small and medium-sized enterprises are undervalued components in growing the economy. He further argued that discovering and exploiting entrepreneurial opportunities require leadership skills and a business mindset.⁴⁶ Entrepreneurship education exploits unnoticed and unidentified opportunities by allowing industries to use research facilities in institutions in exchange for funding and job opportunities for graduates.⁴⁷ Entrepreneurship education plays a significant role in university-pushed, government-pulled, and industry-led innovation. The model's key elements are policies for defining ownership of intellectual property, research base with commercial potential, the habit of generating start-ups, an entrepreneurial atmosphere on campus, participation in innovation strategy, sharing profit and regulating conflict of interest.⁴⁸

³⁶ André Gerard Steenekamp, S P Van der Merwe, and Rosemary Athayde, "An Investigation into Youth Entrepreneurship in Selected South African Secondary Schools: An Exploratory Study," *Southern African Business Review* 15, no. 3 (2011): 46–75.

³⁷ T. R. Kunene, "A Critical Analysis of Entrepreneurial and Business Skills in SMEs in the Textile and Clothing Industry in Johannesburg, South Africa" (University of Pretoria, 2009).

³⁸ David STOKES, Nick WILSON, and Martha-Entrepreneurship Hampshire MADOR, "Cengage Learning EMEA, 2010" (Boston, MA: South-Western CENGAGE Learning, 2010).

³⁹ Radipere, "South African University Entrepreneurship Education."

⁴⁰ Henry Etzkowitz, "Research Groups as 'Quasi-Firms': The Invention of the Entrepreneurial University," *Research Policy* 32, no. 1 (2003): 109–21.

⁴¹ Etzkowitz, "Research Groups as 'Quasi-Firms': The Invention of the Entrepreneurial University."

⁴² Maribel Guerrero-Cano, David Urbano, and David Kirby, "A Literature Review on Entrepreneurial Universities: An Institutional Approach," 2006.

⁴³ Peter Schulte, "The Entrepreneurial University: A Strategy for Institutional Development," *Higher Education in Europe* 29, no. 2 (2004): 187–91.

⁴⁴ Andrés Bernasconi, "University Entrepreneurship in a Developing Country: The Case of the P. Universidad Católica de Chile, 1985–2000," *Higher Education* 50 (2005): 247–74.

⁴⁵ André Van Stel, Martin Carree, and Roy Thurik, "The Effect of Entrepreneurial Activity on National Economic Growth," *Small Business Economics* 24 (2005): 311–21.

⁴⁶ Álvaro Cuervo, Domingo Ribeiro, and Salvador Roig, "Entrepreneurship: Concepts, Theory and Perspective. Introduction," in *Entrepreneurship: Concepts, Theory and Perspective* (Springer, 2007), 1–20.

⁴⁷ William B Gartner and Sue Birley, "Introduction to the Special Issue on Qualitative Methods in Entrepreneurship Research," *Journal of Business Venturing* (Elsevier, 2002).

⁴⁸ Etzkowitz and Zhou, "Regional Innovation Initiator: The Entrepreneurial University in Various Triple Helix Models."

Entrepreneurship is the best economic development strategy to boost a country's job creation, competitiveness, and economic growth.⁴⁹ Studies have revealed a positive relationship between entrepreneurship and economic growth, with regards to firm survival technological change, and job creation.⁵⁰ Khoury *et al.* revealed that the labour market has shown entrepreneurship as a major contributor to competitiveness, innovation, and economic growth.⁵¹ They also asserted that education must focus on reflecting on innovation, career, and principles to help with creativity.⁵² Higher education in most countries encounters a shortage of resources and that made entrepreneurial universities gain the attention of government, academics, and policymakers by encouraging its existence.⁵³

Rodrigues *et al.* emphasised that students with entrepreneurship education as part of their curriculum are creative.⁵⁴ The shortage of entrepreneurship education has a negative impact on the economy, investing in entrepreneurship education may boost the low rate of Small, Medium and Micro Enterprises in South Africa.⁵⁵ Van der Westhuizen and Gruel mentioned the factors discouraging students towards entrepreneurship: a) inappropriate syllabuses and content; b) lack of interest in entrepreneurship; c) inappropriate teaching and learning methods; d) lack of exposure to reality; and e) lack of entrepreneurial support.⁵⁶ Fatoki and Garwe further mentioned that addressing unemployment while reviving the economy can be achieved by introducing entrepreneurship education to the youth, helping with innovation and providing information on the advantages when becoming an entrepreneur.⁵⁷ Wong *et al.* have said the contribution of innovation and entrepreneurship education to economic growth has been established in the economic literature.⁵⁸

METHODOLOGY

The research focused on the University of KwaZulu-Natal and the University of Zululand two universities located in KwaZulu-Natal Province. The research methodology followed a mixed method approach where the data collected was both qualitative and quantitative. The University of KwaZulu-Natal's target population was 10, 627 postgraduate students, and 1,331 academic staff, and the University of Zululand's target population was 3,604 postgraduate students and 277 academic staff for all campuses.⁵⁹ The sample size was obtained using a table developed by Sekaran.⁶⁰ The University of KwaZulu-Natal consisted of 368 postgraduate students and 4 academic staff members. The qualitative data was collected using interviews (via Zoom, Microsoft Teams, or face-to-face) with academic staff. The data analysis was conducted using NVIVO thematic analysis programme to organise and analyse qualitative data. The quantitative data was collected using questionnaires (the questionnaire was self-administered by the researcher) on postgraduate students. The data analysis was conducted using

⁴⁹ Grace Khoury, Dean Elmuti, and Omar Omran, "Does Entrepreneurship Education Have a Role in Developing Entrepreneurial Skills and Ventures' Effectiveness?," 2012.

⁵⁰ O. Y. Keat, C. Selvarajah, and D. Meyer, "Inclination towards Entrepreneurship among University Students: An Empirical Study of Malaysian University Students," *International Journal of Business and Social Science* 2, no. 4 (2011): 206–20.

⁵¹ Khoury, Elmuti, and Omran, "Does Entrepreneurship Education Have a Role in Developing Entrepreneurial Skills and Ventures' Effectiveness?"

⁵² Khoury, Elmuti, and Omran, "Does Entrepreneurship Education Have a Role in Developing Entrepreneurial Skills and Ventures' Effectiveness?"

⁵³ Rosa Grimaldi et al., "30 Years after Bayh–Dole: Reassessing Academic Entrepreneurship," *Research Policy* 40, no. 8 (2011): 1045–57.

⁵⁴ Ricardo Gouveia Rodrigues et al., "The Effect of an Entrepreneurial Training Programme on Entrepreneurial Traits and Intention of Secondary Students," *Entrepreneurship–Born, Made and Educated*, 2012, 77–92.

⁵⁵ Fatoki Olawale and David Garwe, "Obstacles to the Growth of New SMEs in South Africa: A Principal Component Analysis Approach," *African Journal of Business Management* 4, no. 5 (2010): 729.

⁵⁶ Marichen Van der Westhuizen and Thomas Greuel, "Are We Hearing the Voices? Africanisation as Part of Community Development," *HTS: Theological Studies* 73, no. 3 (2017): 1–9.

⁵⁷ Olawale and Garwe, "Obstacles to the Growth of New SMEs in South Africa: A Principal Component Analysis Approach."

⁵⁸ Poh Kam Wong, Yuen Ping Ho, and Erkkö Autio, "Entrepreneurship, Innovation and Economic Growth: Evidence from GEM Data," *Small Business Economics* 24 (2005): 335–50.

⁵⁹ University of Kwa-Zulu Natal, "THE UKZN TRANSFORMATION CHARTER. University of Kwa-Zulu Natal," 2022, <https://www.ukzn.ac.za/wp-content/miscFiles/docs/general-docs/the-ukzn-transformation-charter.pdf>.

⁶⁰ U. Sekaran and R. Bougie, *Research Methods for Business: A Skill Building Approach* (New York: Wiley, 2016).

SPSS's latest version to obtain ANOVA, correlation coefficient and regression variables. The ANOVA was used to analyse demographic data to check if age, gender and race have an influence on decision-making. The correlation coefficient was used to measure the strength of the relationship between variables. Regression analysis was utilised to analyse the relationship between dependent and independent variables. The research applied pragmatism philosophy since it allow both qualitative and quantitative data sets.

A quota sampling technique was used because the University of KwaZulu-Natal has four colleges (College of Agriculture, Engineering and Science, College of Health Sciences, College of Humanities and College of Law and Management Studies) and the University of Zululand has four faculties (Faculty of Arts, Faculty of Education, Faculty of Commerce, Administration and Law, Faculty of Science, Agriculture and Engineering). In the qualitative research, one senior academic staff member was interviewed per college/ faculty to avoid repetition of information but to get in-depth information and fair representation of each faculty/ college.

PRESENTATION OF RESULTS

Quantitative Data

The University of KwaZulu-Natal had 55% of females and 45% of males participating, whereas the University of Zululand had 51% of females and 49% of males participating.

The UKZN age category shows that 67.7% were postgraduate students between 20 and 24 years, 21.5% were postgraduate students between 25 and 29 years, 7.6% were between 30 and 34 years, 2.2% were between ages of 35 and 40 years and 1.0% were 41 years and above postgraduate students. For UNIZUL it shows that 66.5% were postgraduate students between the ages of 20 and 24 years, 28.0% were between 25 and 29 years, 4.3% were between 30 and 34 years, 1.2% were between the ages of 35 and 40 years and no one participated from the age of 41 and above. The participants were divided according to the number of colleges or faculties depending on the institution and all colleges were fairly represented.

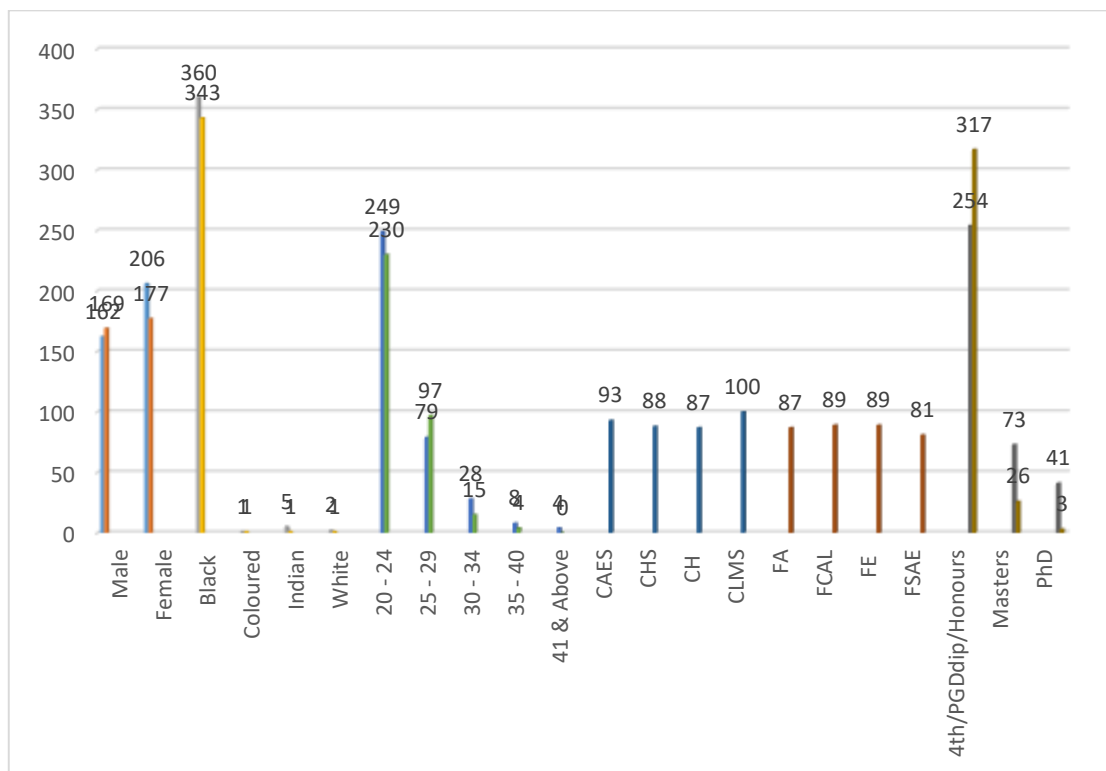


Figure 1. The demographic findings summary

To determine if entrepreneurship education knowledge can help boost innovation among students.

Questions	Total sample (s)	Mean (\bar{x}) Ave=3.71	Standard deviation (σ)
1. My degree is structured in a way that allows me to be versatile in industry and in venture start-ups.	368	3.31	1.205
2. The relationship the university has with other sectors and stakeholders creates opportunities for me.	368	3.18	1.151
3. The fourth industrial revolution world requires education to contribute to technological innovation advancement.	368	4.16	0.962
4. What I have learned is not sufficient to trigger innovation.	368	2.87	1.187
5. University course content needs to improve for me to be innovative.	368	3.79	1.067
6. University entrepreneurship education needs to improve for me to be innovative.	368	3.86	1.053
7. University-society-industry needs to collaborate and develop research and development centres.	368	4.15	0.9417
8. Adding entrepreneurship education to my curriculum will help stimulate an entrepreneurial mindset.	368	4.34	0.9079

Statement number 1, “My degree is structured in a way that allows me to be versatile in industry and in venture start-ups.” Students were responding using their current curriculum as a reference. A total of 49.4% agreed with a statement, 25.3% were neutral and 25.3% disagreed. More than twenty-five percent were not sure about their capability to adapt easily to different situations.

Students from other faculties/ Colleges are forced to become job seekers due to the structured curriculum, students are not granted an alternative career option to fall back on if the first plan fails or when the student is no longer interested in working for someone. 25% disagreed with the view that their degree allows them to be versatile. The statement had a mean average of 3.31 and 1.205 standard deviation. Neutral students and those who disagreed were more than fifty percent suggesting that curriculum developers, academic leaders, heads of departments, and senior lecturers have a task to revise curriculum content. The curriculum must promote creative thinking, and allow students to be versatile.

Statement number 2, “The relationship the university has with other sectors and stakeholders creates opportunities for me.” 37.8% agreed with the statement, 38% were neutral and 24.2% disagreed. Minority of students supported the statement whereas a large number of students were neutral. The neutral response could mean students are not aware of the relationship between institutions, industries, government, or civil society. The quadruple helix actor of innovation emphasises the significance of collaboration amongst these actors, and the advantage it brings to students and external society. Arnkil *et al.* (2010) said the quadruple helix is an innovation model where universities and society cooperate to produce scarce skills and innovation. Kolehmainen *et al.* discussed that the quadruple helix plays an important role in allowing stakeholders to understand their role in the success or failure of entrepreneurial universities.⁶¹ Leydesdorff and Meyer emphasized that each stakeholder must have a

⁶¹ Jari Kolehmainen et al., “Quadruple Helix, Innovation and the Knowledge-Based Development: Lessons from Remote, Rural and Less-Favoured Regions,” *Journal of the Knowledge Economy* 7 (2016): 23–42.

positive contribution toward innovation, venture creation, job creation and local economic development.⁶²

The results suggest more work needs to be done by the institution, government, industries, and civil society to produce innovative graduates.

Statement number 3, “The fourth industrial revolution (4IR) world requires education to contribute to technological innovation advancement.” A total of 79.9% of students agreed with the statement, 15.8% were neutral and 4.3% disagreed. The students agreed that education must be up to date to meet current needs, students need to understand current trends and be able to use technology to their advantage. The result supports the position of Smith and Woodworth when they stated, “Entrepreneurship and innovation must converge to strengthen the economy.”⁶³ Ramaphosa asserted that introducing entrepreneurship to students may improve innovation, revive the economy, and reduce unemployment.⁶⁴ Technology plays a big part in the economy; manual labour is replaced by machines and robots leading to fewer jobs in the job market. Students need to focus on innovation and innovative entrepreneurship to counteract current dilemmas and create opportunities for the society.

Statement number 5, “University course content needs to improve for me to be innovative.” The objective suggests that the content is outdated and needs improvement. 65.5% of students agreed, 24.2% were neutral and 10.3% disagreed. Majority of students think what is taught through the curriculum is not sufficient knowledge to help them boost innovation. Adjusting the curriculum by removing outdated modules and replacing them with innovative entrepreneurship will help students think entrepreneurially. Improving course content will trigger entrepreneurial intent among students. Chimucheka argues that low total entrepreneurial activity (TEA) is a risk to the economy, therefore government, universities, and well-established ventures must help Small Medium, and Micro Enterprises (SMMEs) to change total entrepreneurial activity in South Africa.⁶⁵ Stokes *et al.* believe that entrepreneurship education can be used to develop skills through learning.⁶⁶

Statement number 7, “University-society-industry needs to collaborate and develop research and development centres.” Collaboration will help each stakeholder to contribute towards building new frontiers. Industries may encounter problems, the university's responsibility is to conduct research on the problem, get findings, and transfer them to the industry where the theory is put into practice. The statement had 82.3% of students agree with the statement, 12.5% were neutral and 5.2% disagreed. This position confirms the view of Etzkowitz and Zhou who posited that the entrepreneurial mode collaborates with entrepreneurial attitude, and vision and bridges the gap between university and industry.⁶⁷ The collaboration could help students find mentors, and sponsors, and provide a chance for networking in the process.

Statement number 8, “Adding entrepreneurship education in my curriculum will help me stimulate entrepreneurial mindset.” The statement has high positive results compared to all the statements. Students want entrepreneurship education to be added to their curriculum, 88.1% of students agree with the statement, 7.9% of students were neutral and 4.1% disagreed. The alarming high percentage calls for urgent attention, students believe entrepreneurship education is the key to the future, and students must be granted education to prepare for future possibilities. Ajzen said entrepreneurship

⁶² Loet Leydesdorff and Martin Meyer, “Triple Helix Indicators of Knowledge-Based Innovation Systems: Introduction to the Special Issue,” *Research Policy* 35, no. 10 (2006): 1441–49.

⁶³ Smith and Woodworth, “Developing Social Entrepreneurs and Social Innovators: A Social Identity and Self-Efficacy Approach.”

⁶⁴ State of the Nation Address, *President Cyril Ramaphosa: 2020 State of the Nation Address* (CapeTown: Government Communication, 2020).

⁶⁵ Chimucheka, “Entrepreneurship Education in South Africa.”

⁶⁶ STOKES, WILSON, and MADOR, “Cengage Learning EMEA, 2010.”

⁶⁷ Etzkowitz and Zhou, “Regional Innovation Initiator: The Entrepreneurial University in Various Triple Helix Models.”

education fuels readiness and opportunity to search.⁶⁸ Khoury *et al.* discussed the link between entrepreneurial training, entrepreneurial education, social competence and venture effectiveness.⁶⁹

Objective 4 examined students' attitudes toward innovation and entrepreneurship education. The results showed students had positive attitudes, therefore adding to the conclusion that entrepreneurship education will benefit students and stimulate entrepreneurial intent.

Excerpts of Interviews conducted by the Researchers

The interviewer engaged in a discussion with the participants to find out if expanding entrepreneurship education is good for the institution.

An academic Professor agreed with the notion and stated;

"It is good, there is a lot we are currently not exploring. One of the things that may be causing this is my limited information or limited interaction with entrepreneurship material that is out there. I've not seen the integration of innovation, technology and entrepreneurship. Therefore, it is something that I think should be there. Maybe it is currently been practised or taught to some point or level, but this is not enough because I am an academic at the University of KwaZulu-Natal and I'm not aware of it. It means there is more room to widen that scope because the more people know about it the wider the impact. Expanding entrepreneurship education is very very important and it will enhance the entrepreneurship skills of graduates, staff members, and everybody who interacts with the entrepreneurship information that is disseminated, thank you."

Another academic supported the views of the previous respondent and added;

"The answer is good for every qualification. We look for jobs in existing businesses. For every qualification, if you want to go into the business side or want to work, you are going to work for someone's business. So, at some point, we need to integrate entrepreneurship into all our degrees. To move up the ranks in any job, if you don't have entrepreneurship skills, it is harder for you to move up the ladder."

The respondent further stated,

"So even if you get a job with your qualifications, you stay and you remain where you are, it hard to get a promotion. If you have knowledge on the business side of things, you can contribute not only on the science side but even on the business side, therefore, this is something that needs to be integrated".

Another senior lecturer said:

"I think it is important that all students must be introduced to entrepreneurship education. I see students in Health Science when they complete their degrees, want to open practice, in rural areas we have pharmacies now that belong to the graduates and those practices help the community. Imagine if they didn't have the guts to utilise their ideas, the community would still be poor even though they produce pharmacists. So, I think it is important to start introducing business models to kids."

DISCUSSION

The findings reported that students need the curriculum on entrepreneurship education to be revised and expanded across the institutions to equip students with a business mindset and innovation skills. Students showed a positive attitude towards entrepreneurship education. A total of more than 88% reflecting the highest percentage were students supporting the idea of entrepreneurship education being added to all qualifications. The findings emphasize closing the gap of unemployment by suggesting

⁶⁸ Icek Ajzen, "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes*, 1991.

⁶⁹ Khoury, Elmuti, and Omran, "Does Entrepreneurship Education Have a Role in Developing Entrepreneurial Skills and Ventures' Effectiveness?"

the introduction of entrepreneurship education curricula, workshops, and seminars to promote entrepreneurial mindset among students. Findings reveal that students have good intentions toward venture creation. However, they face obstacles, such as the shortage and lack of entrepreneurship education in other colleges/ faculties which hinder the process of business journeys. Students are of the view that getting entrepreneurship education and training will make it easy for them to start businesses.

Students urged institutions to use quadruple helix actors to speed up the development process. Collaboration of universities, government, industries and civil society could allow each stakeholder to contribute significantly towards building a better economy. Using entrepreneurship education may stimulate innovation where new businesses are developed and job opportunities increase. Findings revealed that outdated education contributes to unemployment and hinders more students from starting businesses, the research results support the findings by Iqbal *et al.*⁷⁰ The institution must invest in innovation centres, research and development, collaborations with international institutions and use innovative ways of teaching to keep students interested. Fayolle *et al.* posited that to stimulate interest, teaching must use case studies and practical scenarios.⁷¹

The findings are significant because they reveal that students indeed need entrepreneurship education across all qualifications in higher education institutions. Findings challenge decision makers such as heads of departments (HODs), academic leaders, senior lecturers and curriculum developers to remove outdated content in the curriculum and replace it with innovative-based content. The findings suggest colleges/ faculties redesign each degree to meet current models and expectations. A study by Fields and Kunene mentioned that entrepreneurship education is still at an infant stage, therefore, active entrepreneurship education must be promoted to produce productive entrepreneurs.⁷² The findings are significant because they support the Department of Higher Education and Training (DHET), and Entrepreneurship Development in Higher Education (EDHE) strategy to develop entrepreneurship country-wide.

This research magnifies the need to expand entrepreneurship education across all qualifications in the institutions to boost students' innovation. This will bridge a gap in society, industry, university and government by providing a solution to unemployment and contributing to economic growth. The curriculum needs urgent attention to better equip students with relevant skills. The results show that students have a positive attitude towards entrepreneurship and they can start businesses after obtaining entrepreneurship education. Limited entrepreneurship education prevents students from taking entrepreneurship as a career, students want to embark on an entrepreneurship journey but to be successful one needs proper development such as skills and training to open a business.

RECOMMENDATIONS

Based on the findings, it is recommended that entrepreneurship education should be expanded to other colleges to bring positive change by helping boost students' innovations. Students are keen to become entrepreneurs, however they lack entrepreneurial skills. Entrepreneurship education will equip students with skills and produce business-minded graduates. It is also recommended the current curriculum be revised to better equip students with market-related skills. The results reflect a positive attitude towards entrepreneurship development and students emphasize that entrepreneurship education be introduced into their curriculum. The statement saying, “*Adding entrepreneurship education is good for my qualification*”, had the majority of students agreeing with it. This signals that students want to use entrepreneurship skills to start innovative businesses.

⁷⁰ Iqbal, Melhem, and Kokash, “Readiness of the University Students towards Entrepreneurship in Saudi Private University: An Exploratory Study.”

⁷¹ Alain Fayolle, Benoît Gailly, and Narjisse Lassas-Clerc, “Assessing the Impact of Entrepreneurship Education Programmes: A New Methodology,” *Journal of European Industrial Training* 30, no. 9 (2006): 701–20.

⁷² Fields and Kunene, *Youth Entrepreneurship Learning Challenges (Final 2)*.

CONCLUSION

This study has explored how to expand entrepreneurship education in South African universities to strengthen the economy and create job opportunities in the country. The study found that entrepreneurship education plays a significant role in educating people about business development and reducing poverty while creating job opportunities using innovation. Participants pointed out the failures in the curriculum. They also pointed out that the current curriculum offered to students should be restructured to equip every student with the necessary skills. This is evidence that expanding entrepreneurship education could assist in boosting students' innovation in South African universities, and it can be achieved by providing entrepreneurship education to every qualification across the institutions. Entrepreneurship education will equip students with more alternatives and allow students to see entrepreneurship as a career. The vision is to provide students the option to be employed or apply creative skills obtained from qualifications to venture into business.

IMPLICATIONS FOR FUTURE RESEARCH

The research has investigated the significance of adding entrepreneurship education to other qualifications, findings recommend that entrepreneurship education must be introduced to all qualifications. Future research could look at the unemployment rate at that current year before adding entrepreneurship education to other qualifications, then utilise longitudinal research to investigate changes over time. The researcher could collect data from universities to investigate if university location has an impact on unemployment, and compare universities based on the provinces in which they are located.

BIBLIOGRAPHY

- Ahmad, N, and R Seymour. "The Word Entrepreneur Itself Derives from the French Verb *Entreprendre*, Meaning to Undertake." *Statistics* 16 (2006): 1–22.
- Ajzen, Icek. "The Theory of Planned Behavior." *Organizational Behavior and Human Decision Processes*, 1991.
- Barry, William Sidney. *Airline Management: Business Management in Transport* 3. Routledge, 2017.
- Bernasconi, Andrés. "University Entrepreneurship in a Developing Country: The Case of the P. Universidad Católica de Chile, 1985–2000." *Higher Education* 50 (2005): 247–74.
- Booyens, Irma. "Are Small, Medium-and Micro-Sized Enterprises Engines of Innovation? The Reality in South Africa." *Science and Public Policy* 38, no. 1 (2011): 67–78.
- Byrne, Janice, Salma Fattoum, and Maria Cristina Diaz Garcia. "Role Models and Women Entrepreneurs: Entrepreneurial Superwoman Has Her Say." *Journal of Small Business Management* 57, no. 1 (2019): 154–84.
- Chimucheka, T. "Entrepreneurship Education in South Africa." *Mediterranean Journal of Social Sciences* 5, no. 2 (2014): 403.
- Crumpton, Michael A. "Innovation and Entrepreneurship." *The Bottom Line* 25, no. 3 (2012): 98–101.
- Cuervo, Álvaro, Domingo Ribeiro, and Salvador Roig. "Entrepreneurship: Concepts, Theory and Perspective. Introduction." In *Entrepreneurship: Concepts, Theory and Perspective*, 1–20. Springer, 2007.
- Department of Higher Education and Training. "National Framework for Academics as University Teachers," 2018.
- Etzkowitz, Henry. "Research Groups as 'Quasi-Firms': The Invention of the Entrepreneurial University." *Research Policy* 32, no. 1 (2003): 109–21.
- Etzkowitz, Henry, and Chunyan Zhou. "Regional Innovation Initiator: The Entrepreneurial University in Various Triple Helix Models." In *Singapore Triple Helix VI Conference Theme Paper*, 1–25, 2007.

- Fatoki, Olawale, and Lynety Chindoga. "An Investigation into the Obstacles to Youth Entrepreneurship in South Africa." *International Business Research* 4, no. 2 (2011): 161–69.
- Fayolle, Alain, Benoît Gailly, and Narjisse Lassas-Clerc. "Assessing the Impact of Entrepreneurship Education Programmes: A New Methodology." *Journal of European Industrial Training* 30, no. 9 (2006): 701–20.
- Fields, Z., and L. Kunene. *Youth Entrepreneurship Learning Challenges (Final 2)*. Durban: UKZN, 2017.
- Gartner, William B, and Sue Birley. "Introduction to the Special Issue on Qualitative Methods in Entrepreneurship Research." *Journal of Business Venturing*. Elsevier, 2002.
- Grimaldi, Rosa, Martin Kenney, Donald S Siegel, and Mike Wright. "30 Years after Bayh–Dole: Reassessing Academic Entrepreneurship." *Research Policy* 40, no. 8 (2011): 1045–57.
- Guerrero-Cano, Maribel, David Urbano, and David Kirby. "A Literature Review on Entrepreneurial Universities: An Institutional Approach," 2006.
- Gundry, Lisa K, Laurel F Ofstein, and Jill R Kickul. "Seeing around Corners: How Creativity Skills in Entrepreneurship Education Influence Innovation in Business." *The International Journal of Management Education* 12, no. 3 (2014): 529–38.
- Igwe, P. A., and A. Icha-Ituma. "A Review of Ten Years of African Entrepreneurship Research." *Research Handbook on Entrepreneurship in Emerging Economies.*, 2020.
- Iqbal, Adnan, Yahya Melhem, and Husam Kokash. "Readiness of the University Students towards Entrepreneurship in Saudi Private University: An Exploratory Study." *European Scientific Journal* 8, no. 15 (2012).
- Keat, O. Y., C. Selvarajah, and D. Meyer. "Inclination towards Entrepreneurship among University Students: An Empirical Study of Malaysian University Students." *International Journal of Business and Social Science* 2, no. 4 (2011): 206–20.
- Kekana, Lesiba. "Julius Malema Asks for Advice from Thabo Mbeki about Zuma," November 3, 2017. <https://www.youtube.com/watch?v=INDXixxKPbI>.
- Kerrin, Myres, M Anastacia Mamabolo, and Tumo Kele. "Entrepreneurship Management Skills Requirements in an Emerging Economy: A South African Outlook." *The Southern African Journal of Entrepreneurship and Small Business Management* 9, no. 1 (2017): 1–10.
- Khoury, Grace, Dean Elmuti, and Omar Omran. "Does Entrepreneurship Education Have a Role in Developing Entrepreneurial Skills and Ventures' Effectiveness?," 2012.
- Kolehmainen, Jari, Joe Irvine, Linda Stewart, Zoltan Karacsonyi, Tünde Szabó, Juha Alarinta, and Anders Norberg. "Quadruple Helix, Innovation and the Knowledge-Based Development: Lessons from Remote, Rural and Less-Favoured Regions." *Journal of the Knowledge Economy* 7 (2016): 23–42.
- Kroon, J, and S Meyer. "The Role of Entrepreneurship Education in Career Expectations of Students." *South African Journal of Higher Education* 15, no. 1 (2001): 47–53.
- Kunene, T. R. "A Critical Analysis of Entrepreneurial and Business Skills in SMEs in the Textile and Clothing Industry in Johannesburg, South Africa." University of Pretoria, 2009.
- Leydesdorff, Loet, and Martin Meyer. "Triple Helix Indicators of Knowledge-Based Innovation Systems: Introduction to the Special Issue." *Research Policy* 35, no. 10 (2006): 1441–49.
- Moses, Cheryl, Moses M Sithole, William Blankley, Demetre Labadarios, Hlamulo Makelane, and Nolitha Nkobole. "The State of Innovation in South Africa: Findings from the South African National Innovation Survey." *South African Journal of Science* 108, no. 7 (2012): 1–5.
- Naughton, Michael, and Jeffrey R Cornwall. "Culture as the Basis of The Good Entrepreneur." *Journal of Religion & Business Ethics* 1, no. 1 (2009).
- Nieuwenhuizen, Cecile. *Entrepreneurship: A South African Perspective*. Van Schaik Publishers, 2009.
- Olawale, Fatoki, and David Garwe. "Obstacles to the Growth of New SMEs in South Africa: A Principal Component Analysis Approach." *African Journal of Business Management* 4, no. 5 (2010): 729.

- Radipere, Simon. "South African University Entrepreneurship Education." *African Journal of Business Management* 6, no. 44 (2012): 11015.
- Robson, Paul J A, Helen M Haugh, and Bernard Acquah Obeng. "Entrepreneurship and Innovation in Ghana: Enterprising Africa." *Small Business Economics* 32 (2009): 331–50.
- Rodrigues, Ricardo Gouveia, Anabela Dinis, Arminda do Paço, João Ferreira, and Mário Raposo. "The Effect of an Entrepreneurial Training Programme on Entrepreneurial Traits and Intention of Secondary Students." *Entrepreneurship–Born, Made and Educated*, 2012, 77–92.
- Sahut, Jean-Michel, and Marta Peris-Ortiz. "Small Business, Innovation, and Entrepreneurship." *Small Business Economics* 42 (2014): 663–68.
- Schulte, Peter. "The Entrepreneurial University: A Strategy for Institutional Development." *Higher Education in Europe* 29, no. 2 (2004): 187–91.
- Sekaran, U., and R. Bougie. *Research Methods for Business: A Skill Building Approach*. New York: Wiley, 2016.
- Shane, Scott. "Reflections on the 2010 AMR Decade Award: Delivering on the Promise of Entrepreneurship as a Field of Research." *Academy of Management Review* 37, no. 1 (2012): 10–20.
- Smith, Isaac H, and Warner P Woodworth. "Developing Social Entrepreneurs and Social Innovators: A Social Identity and Self-Efficacy Approach." *Academy of Management Learning & Education* 11, no. 3 (2012): 390–407.
- State of the Nation Address. *President Cyril Ramaphosa: 2020 State of the Nation Address*. CapeTown: Government Communication, 2020.
- "State of the Nation Address (SONA)," 2021. [https://www.tourism.gov.za/AboutNDT/Publications/State of the Nation Address by President Cyril Ramaphosa - 2021.pdf](https://www.tourism.gov.za/AboutNDT/Publications/State%20of%20the%20Nation%20Address%20by%20President%20Cyril%20Ramaphosa%20-%202021.pdf).
- Steenekamp, André Gerard, S P Van der Merwe, and Rosemary Athayde. "An Investigation into Youth Entrepreneurship in Selected South African Secondary Schools: An Exploratory Study." *Southern African Business Review* 15, no. 3 (2011): 46–75.
- Stel, André Van, Martin Carree, and Roy Thurik. "The Effect of Entrepreneurial Activity on National Economic Growth." *Small Business Economics* 24 (2005): 311–21.
- STOKES, David, Nick WILSON, and Martha-Entrepreneurship Hampshire MADOR. "Cengage Learning EMEA, 2010." Boston, MA: South-Western CENGAGE Learning, 2010.
- University of Kwa-Zulu Natal. "THE UKZN TRANSFORMATION CHARTER. University of Kwa-Zulu Natal," 2022. <https://www.ukzn.ac.za/wp-content/miscFiles/docs/general-docs/the-ukzn-transformation-charter.pdf>.
- Wei, Xingjian, Xiaolang Liu, and Jian Sha. "How Does the Entrepreneurship Education Influence the Students' Innovation? Testing on the Multiple Mediation Model." *Frontiers in Psychology* 10 (2019): 1557.
- Westhuizen, Marichen Van der, and Thomas Greuel. "Are We Hearing the Voices? Africanisation as Part of Community Development." *HTS: Theological Studies* 73, no. 3 (2017): 1–9.
- Wong, Poh-Kam, Yuen-Ping Ho, and Annette Singh. "Towards an 'Entrepreneurial University' Model to Support Knowledge-Based Economic Development: The Case of the National University of Singapore." *World Development* 35, no. 6 (2007): 941–58.
- Wong, Poh Kam, Yuen Ping Ho, and Erkkö Autio. "Entrepreneurship, Innovation and Economic Growth: Evidence from GEM Data." *Small Business Economics* 24 (2005): 335–50.

ABOUT AUTHORS

Dr. Thabo Wonder Mtshali is a distinguished academic specializing in Management and Entrepreneurship. Originally from a township in Pietermaritzburg, South Africa. Dr. Mtshali earned a PhD in Entrepreneurship from the University of KwaZulu-Natal, where he now serve as a lecturer in the School of Management, Information Technology and Governance. Passionate about fostering innovation and business acumen. Dr. Mtshali is dedicated to equipping students with the knowledge

and skills to navigate the dynamic entrepreneurial landscape. His research interests include small business development, entrepreneurial ecosystems, and sustainable enterprise growth. With a commitment to academic excellence and community impact, Dr. Mtshali continues to contribute to the field through research, mentorship, and thought leadership.

Dr. VW Gamede is a senior lecturer at the University of KwaZulu-Natal's School of Management, Information Technology and Governance. He has 18 years of lecturing experience at the institutions of higher learning in the areas of management and entrepreneurship. He has supervised and graduated 14 Honours students, 15 Masters students and 13 PhDs. Dr Gamede has published 22 articles in the Department of Higher Education accredited journals and 3 books chapters. Dr Gamede has examined 16 Masters and 4 PhDs. His research interests are in the areas of Small and Medium Enterprises and Corporate Social Responsibility.

Prof. Pfano Mashau is an NRF C-rated Professor and a Director of the Business school at the Durban University of Technology. He also serves as chairperson for the Institutional Research Ethics Committee. He previously worked for the University of KwaZulu-natal, School of Management, IT, and Governance as an Associate Professor. He holds a PhD in Management Sciences. He is involved in lecturing at the undergraduate and postgraduate levels. He has been appointed as an Academic Leader in Research and Higher Degrees at the School of Management IT and Governance since 2023. His research focus is on Small Business Development, Innovation, Business Management, Entrepreneurship, and Agglomeration Economies. Prior to working as an academic, he worked for JET Education Services, BioRegional, and a few small businesses. Prof Mashau has published over 70 research articles, supervised ten doctoral theses to completion, and over 20 Masters dissertations. Some of the research work has been presented at international conferences. He has been an editor for a journal and books. He is a member of the Black Management Forum, BRICS Youth Forum, Pan African Research Council, and IBASA-certified Business Advisor.