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Contextual factors influencing entrepreneurship education at a South African University of Technology

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Background: Entrepreneurship education (EE) occupies a particularly critical space in the development strategies of emerging market countries where entrepreneurs and small businesses are required to drive economic growth and job creation. In South Africa, universities of technology (UoT), which provide vocation-focussed tertiary education, are considered vital vehicles of EE.

Aim: Institutions and educators are challenged by the limited research around EE content and pedagogy, particularly outside of the business school context. This study seeks to address these research gaps within the South African economic context by examining EE courses at a UoT.

Setting: This study examined 14 entrepreneurship courses offered across 11 disciplines at one South African UoT.

Methods: A qualitative study consisting of semi-structured interviews with 10 educators was conducted to explore how they design and deliver their EE courses.

Results: The study found three contextual factors that influence the way educators design and deliver EE courses: (1) the needs of the student: the systemic nature of their experiences, (2) the quality of teaching materials: the limited relevance of the content, and (3) the background of the educators: their experience with entrepreneurship and industry.

Conclusion: In examining these key contextual factors, this study highlights the challenges that locally higher education institutions face in designing the courses that are effective at promoting entrepreneurship locally. It also showcases the prominent role that educators play in solving problems, addressing challenges, and ensuring that EE contributes to a broader economic agenda by bringing their own passion, educational expertise, and practical knowledge to the classroom.

Keywords: entrepreneurship education; entrepreneurship; educators; higher education; University of Technology.

Introduction

Entrepreneurship is vital to the economic prosperity of any country but is particularly crucial in the developing countries like South Africa where small businesses are expected to drive essential economic growth. South Africa faces significant developmental challenges, particularly around education and job creation for its youth segment (ages 15–24 years), who hold the highest unemployment of any age group at 63.3% unemployment (StatsSA 2021). Consequently, the strategy of forming and maintaining a strong group of entrepreneurs is often regarded as the solution to such challenges by advocates in both the private and public sectors. Entrepreneurship education (EE) in higher education plays a vital role in this regard. Yet, challenges in EE prevail around developing content and pedagogies that effectively prepare students to become entrepreneurs.

Chimucheka (2014) explained that the development of entrepreneurship is preceded by EE. This education is equated with the acquisition of entrepreneurial skills, concepts, and knowledge, followed by the engagement in entrepreneurial activities that benefit not only the individuals, but also organisations and broader society. According to Herrington and Kew (2016), an educated and appropriately skilled workforce is not only vital to the economic productivity and growth, but also builds self-efficacy and confidence in the individual, thus increasing the chances of starting and sustaining successful businesses. Thus, the focus of EE is to be an efficacy enhancer of entrepreneurship as it provides entrepreneurs with the competencies they need to navigate the fluctuations of the business cycle (Fayolle 2007).

Entrepreneurship training and courses present a challenge to the EE research community beyond the regional challenges of the South African context, largely because it is unclear what exactly constitutes EE. In their review of published empirical studies on EE, Kamovich and Foss (2017) conclude that there is a paucity of research on the teaching objectives, methods, and content of entrepreneurship courses, together with a lack of alignment between the objectives, delivery, and assessment of the course impact. They argue that EE researchers have largely focussed on impact evaluation of entrepreneurship courses on students, neglecting questions about the rationality behind the teaching, delivery mode, and impact assessment mode. This needs to be a consideration because the desired outcomes of EE programmes – the creation of new enterprises – may only appear many years after the course (Diegoli, Gutierrez & Del Mar Garcia-De los Salmones 2018).

Context is an important element of EE research for gaining insight into how, why, and when entrepreneurship occurs and who is involved. Welter (2011:175) therefore offered the view that studies could explore 'how context factors influence the nature and extent of entrepreneurship and not how entrepreneurship impacts its contexts'. However, little research has been conducted on the antecedents to a supportive context for entrepreneurship (Bergmann et al. 2018). In addition, most EE research focusses on courses within a narrow context for entrepreneurship skills building, that of the business school. This oversight is particularly troubling in South Africa as other tertiary institutions, such as universities of technology (UoTs) and comprehensive universities, represent a majority, necessitating further study (Ramchander 2019). In particular, the underlying philosophy of UoTs to provide vocation-focussed tertiary education, combined with its broader accessibility – in terms of cost and years of study – compared with traditional universities, make it a critical site for EE research in the South African context.

This exploratory study addresses the various research gaps by focussing on the teaching methods and approaches employed by instructors of EE courses in multidisciplinary programmes at a UoT in order to understand the challenges for delivering effective EE in South Africa, and the possible solutions emerging within higher education. Drawing on Kamovich and Foss's (2017) framework, the study explores how instructors design and present EE courses in terms of objectives, delivery mode, and assessment. The study further explores how contextual factors, including the instructor and environment, influence the design of EE courses at a tertiary education institution in South Africa.

In the absence of detailed investigations of EE pedagogies at UoTs or the impact of South Africa's context on EE, this study makes a unique contribution by highlighting the granular challenges that higher education institutions face in designing courses that are effective at promoting entrepreneurship locally. It also showcases the prominent, if not singular, role that educators play in solving problems, addressing challenges, and ensuring that EE contributes to a broader economic agenda. Consequently, the findings reveal the strategies that can be adopted by the institutions, educators, and other members of the entrepreneurship ecosystem to enhance EE in higher education, and promote entrepreneurship.

This article is structured as follows: the following section presents a literature review and conceptual framework, followed by the methods. Then, the findings and discussion are presented, along with recommendations. Finally, the conclusion presents the study's limitations and future research.

Literature review
Entrepreneurship in South Africa

Driven by an entrepreneurial spirit to create and achieve, small, micro, and medium enterprises (SMMEs) stimulate competition, improve productivity, and catalyse economic development and job creation (Erasmus, Strydom & Rudansky-Kloppers 2013). For any country, 'accelerating entrepreneurial activities has always been the hallmark of achieving socio-economic development and goals for growth' (Ghafar 2020:218). To underscore its national importance, the coordination, development, and promotion of entrepreneurship is under the umbrella of the South African Department of Small Business Development (DSBD), established in 2014, to strengthen the SMME sector as part of its strategy to enhance growth and alleviate poverty through job creation (DSBD 2020). Yet, South Africa has struggled to create programmes that effectively inspire, train, and prepare people to become entrepreneurs.

The Global Entrepreneurship Monitor (GEM) Report identifies EE amongst its 14 Entrepreneurship Framework Conditions that influence entrepreneurial opportunities, capacity, and preferences. In its 2019 assessment of South Africa, GEM identifies a number of weak conditions in the entrepreneurship ecosystem, three of which were considered critical constraints (below 35% adequacy): government policy and programmes, internal market burdens, research and development transfer, and EE (Bosma et al. 2020). The GEM considers EE at both the school and post-school level. Global Entrepreneurship Monitor defines post-school EE as the extent to which colleges, universities, and business schools 'offer effective courses in entrepreneurial subjects, alongside practical training in how to start a business' (p. 69).

Universities have a crucial role to play in creating a fertile ecosystem for potential entrepreneurs and fostering an entrepreneurial spirit (Gelaidan & Abdullateef 2017; Ghafar 2020). In developing countries like South Africa, institutions of higher learning are often expected to be the vehicles for advancing economic growth (Bhorat, Cassim & Tseng 2016).

However, Herrington and Kew (2016) argue that these institutions are not sufficiently fulfilling their role in EE in terms of facilitating knowledge transfer and stimulating innovation. According to these authors, it is critical for policymakers and institutional leaders to improve EE in South Africa and foster positive entrepreneurial attitudes through the education system.

In recent years, the South African Department of Higher Education and Training (DHET) has partnered with educational institutions to develop EE nationally through the Entrepreneurship Development in Higher Education (EDHE) Programme 2018–2020. The three goals of the EDHE are to mobilise students to create enterprises, support educators to transfer entrepreneurial knowledge, and to create entrepreneurial institutions at the universities themselves that they may also create valuable enterprises (DHET 2018). Thus, the role of the tertiary institutions in carrying out EE in South Africa is both recognised and the subject of current planning.

Within the broader landscape of higher education, South Africa has nine UoTs, which differ from traditional universities in their emphasis on vocational education (Farham 2015). Where traditional universities focus more on academic achievement and theoretical training in a specialised field, the teaching focus at a UoT is more on helping students technically qualified within a specific field. The 2001 National Plan for Higher Education, which was designed as part of national transformation process following the political democratisation of the country, set forth to use UoTs as vehicles of real-world problem solving that are closely integrated with society (Perumal 2010).

Conceptual framework

The effectiveness of EE programmes depends on the careful construction of the programme in terms of the core components (Du Toit & Kempen 2020). Kamovich and Foss (2017) identify objectives, delivery mode, and impact, and the alignment of these elements, as the key components of effective EE. In acknowledging the paucity of research on objectives and delivery mode, they suggest that greater focus on improving these components would inevitably lead to better impacts. They also recognise the importance of external context on objectives and delivery modes, and suggest that future research would explore the influence of contextual factors on the core components of EE design. An elaboration of their framework to include key external factors provides the basis for the research framework used in this study: course outcomes, teachers, learning activities, and the teaching context.

Course objectives

Although some scholars would define EE as teaching students about entrepreneurs and their role in society, there is a cohort that clearly defines EE as developing students' entrepreneurial

attributes and behaviour, whilst equipping them with business start-up knowledge and skills (Chimucheka 2014; Fayolle 2007). In this sense, EE programmes and courses should equip students with the necessary knowledge, skills, and characteristics needed to be an entrepreneur in practice (Ghina, Simatupang & Gustomo 2015).

Entrepreneurship education is regularly subjected to the argument that entrepreneurship cannot be taught and that entrepreneurs cannot be made. Lorz, Meuller and Volery (2013) question the influence of EE alone, arguing that it is mainly students with a pre-existing interest in entrepreneurship who select entrepreneurship as a subject. Studies from several EE researchers have taken on this very issue, concluding that not only can entrepreneurship be taught, but certain approaches and pedagogies can enhance learnings (Brijlal, Naicker & Peters 2013; Costin, O'Brien & Slattery 2018; Fayolle 2007; Mudau & Kruger 2014). Furthermore, this focus on EE as a skill development tool obscures the other key value offered by EE. Beyond transferring knowledge, EE serves to expand exposure to entrepreneurship and help students see entrepreneurship as a viable career path for themselves, thus contributing to the students' sense of self-efficacy (Bux & Van Vuuren 2019).

This study therefore takes the view that entrepreneurship is teachable, that EE is a viable vehicle for teaching, and that EE course objectives can be varied (i.e. fostering entrepreneurial exposure, skills, knowledge, and/or characteristics).

Teachers

Entrepreneurship education educators, like parents and entrepreneurs, are people who can influence students' motivation to pursue entrepreneurship (Rahman & Day 2014). Although educators also play a crucial role in the effective design and delivery of EE courses, the role of teachers remains an under-researched area (Bae et al. 2014; Diegoli et al. 2018; Ruskovaara et al. 2015; San-Martín et al. 2021).

Mudau and Kruger (2014) found that the lecturer had a statistically significant influence on the student's level of interest in entrepreneurship. The educators in their study displayed autonomy and largely influenced the curriculum design of the entrepreneurship courses. According to Fayolle and Kickul (2007:2), educators in this field need to be 'more proactive and innovative in how they plan and organise their programs to develop entrepreneurs'. Ruskovaara et al. (2015) agree that when teachers are involved in the planning of EE in the school, or in the entrepreneurship curricula in general, it yields positive results in terms of increased teacher commitment. Another EE study that included educators as a variable found that the role of educators was not just to teach the course, but to build students' confidence by fostering creativity, curiosity, and analytical ability (Costin et al. 2018).

There is ongoing debate about whether teachers require entrepreneurship experience in order to teach it as many educators do not have extensive entrepreneurial experience (Maritz 2017). Diegoli et al. (2018) found that there was no significant increase in students' entrepreneurial intentions despite the teachers' experience in entrepreneurship. In a study conducted in Spain, university students agreed that teachers in this field should have previously started a business, whilst the teachers in the study felt that having entrepreneurial characteristics was sufficient to be a role model and inspire entrepreneurialism in students (San-Martín et al. 2021).

Regardless of the degree to which practical experience is essential, in practice, many institutions tend to be reliant on practitioners as educators because of limited formal training in EE (Diegoli et al. 2018). This means institutions must place great importance on the course content and delivery to ensure effective EE programmes.

Delivery mode and teaching context

Entrepreneurship education in South Africa has been described as an uncultivated field where business training is prioritised to strengthen SMME success rates. A systematic literature review investigating EE curriculum content and pedagogy in Africa more broadly found that EE courses in this region are similar to general business courses, with the content designed to train students to be good employees, rather than entrepreneurs (Zegeye & Singh 2019). In South Africa, this has transpired through educators adopting outdated, teacher-centred approaches, and the absence of practical learning activities in the courses (Radipere 2012). As a result, as Radipere's survey of EE courses in South Africa found, many courses fail to achieve their intended outcomes.

Piperopoulus and Dimov (2015) found that courses with a more theoretical focus led to higher self-efficacy in students but lower entrepreneurial intentionality, whilst courses with a greater practical focus resulted in both higher self-efficacy and higher entrepreneurial intentionality. Therefore, the preferred methods of teaching entrepreneurship include: experiential learning (Botha & Bignotti 2016), new venture simulations (Buchnik, Gilad & Maital 2018; Costin et al. 2018), and mentoring (Buchnik et al. 2018). Furthermore, these programmes should also be subjected to rigorous evaluation and assessment (Fretschner & Weber 2013) to ensure that learning outcomes are met.

Ultimately, the delivery mode of EE programmes should correlate with the programme audience to maximise impact (Kamovich & Foss 2017). For instance, in their study on entrepreneurship development in Botswana, Themba and Josiah (2015) found that designing EE courses around the student profile can be as much about acknowledging their own experiences of formal education and training, as identifying individuals with entrepreneurial characteristics

and supporting them. The learning activities and course content at a South African UoT should therefore reflect the local entrepreneurship environment and the common experiences and backgrounds of students.

Study aim and objective

This study seeks to expand the conversation around South African EE and focus on the UoTs that have the capacity to reach a broader cross-section of the population and disseminate knowledge in the practical ways recommended by other researchers. Specifically, the objective of this study was to understand the contextual factors that affect the design and delivery of EE courses offered within multidisciplinary programmes at a South African UoT.

The study adds to the sparse conversation about the positioning and integration of EE as a discipline of instruction outside the business school context. Furthermore, this approach is grounded in the finding that EE programmes must be appropriately tailored to the ground conditions of the entrepreneurial environment. Although this study focusses on the unique South African context affecting EE programmes, the relationship between external conditions and the educational environment is a phenomenon experienced globally.

Methods
Research approach

A qualitative, phenomenological study was conducted where the entrepreneurship courses at a UoT were taken as the unit of analysis. A feature of phenomenological research is the exploration of a group of individuals who have experienced the phenomenon, that could vary in size from 3–4 to 10–15 (Creswell & Poth 2018). Given the role of instructors in designing and delivering EE courses, their experiences were considered the best source of data on the topic.

Purposive sampling was undertaken to intentionally select participants on (1) the basis of their knowledge relevant to the study (Babbie 2013), that is, to identify all the entrepreneurship courses on offer and (2) the availability of their instructors for participation. In line with the findings of the literature review and the intended goals of EE, the courses under consideration in the study included any course within the UoT that contained EE objectives and content. The key selection criterion for the sample was that the course be offered as part of a multidisciplinary programme. Of the 34 EE courses identified from an online prospectus that met the criterion, instructors from 14 of the courses were available and willing to participate and formed the basis of the sample. The sample included 10 full-time and part-time faculty members teaching EE courses across 11 multidisciplinary programmes. Eight of the 10 educators in this sample had previously been engaged in entrepreneurial activity, and two were still engaged in consulting practices.

Data collection and analysis

Interviews can be used to acquire unique information or interpretations held by the subject during a qualitative research study (Stake 2010). Semi-structured interviews were therefore conducted with each educator. A pilot study was conducted prior to final data collection using a draft interview questionnaire on a small subset of the target population. This pilot study addressed internal validity concerns by (1) giving the researchers experience with the data collection tool, and (2) testing the adequacy of the interview procedure and questions (Bryman & Bell 2015). Drawing on Kamovich and Foss's (2017) framework for effective EE, participants were asked questions about key aspects of the course design, that is, course outcomes, teacher experience, learning activities, and the teaching context. The pilot study helped to refine some interview questions, which proved to be too lengthy or unclear, and also confirmed that the interview data was sufficient to address the aim of the study.

Interviews were conducted with each faculty member and recorded for later analysis. The recorded data was transcribed and manually coded for emergent themes. Ryan and Bernard's (2003) approach to thematic data analysis was used to identify, narrow, order, and match themes to theoretical models. According to these authors, themes originate both from the data (through an inductive approach), and from the investigator's prior theoretical understanding of the phenomenon under study (an *a priori* approach). The analysis was conducted manually by colour-coding the themes in the transcripts and then compiling the excerpts for theme consolidation in a spreadsheet. The emergent themes were then categorised by the four *a priori* themes of the conceptual framework.

Trustworthiness was sought through the careful selection of experienced and knowledgeable faculty members for the study, and gathering information about their entrepreneurial background and experiences. Whilst it is not possible to generalise the findings from a small sample, researchers are encouraged to (1) engage in purposeful sampling – as is the case in this study and (2) produce 'thick description', that is rich accounts of the details to enable others to make a judgement about the possibility of transferability possible (Bryman & Bell 2015). A method of member checking, whereby the interview subjects evaluate the initial findings (Miles, Huberman & Saldaña 2014), was carried out with participants as an external validation measure. As the study objectives and the interview questions were designed to obtain descriptive information about EE courses from faculty members (as opposed to feelings and experiences), minimal interpretation was required on the part of both the participants and the researchers during data collection and analysis, enhancing trustworthiness.

Ethical considerations

This study was approved by the University of Cape Town, Faculty of Commerce Ethics Committee (reference number,

REC: 2016/07/010) prior to the data collection and all research procedures were conducted in a manner compliant with the ethics policy. All participant names have been anonymised.

Findings
Courses

The courses analysed in this study (Table 1) were offered as either a core module of a 3-year national diploma programme, a core module of a 4-year Bachelor of Technology programme, or as an elective within the different programmes.

The courses were also taught at different stages of the programmes, and the objectives varied accordingly. Across all disciplines, EE courses in the first year of study were governed by the key objective of exposing students to entrepreneurship, introducing them to the world of business, and presenting entrepreneurship as a feasible career option. Courses offered in the second year of study covered more aspects of business management and attention to entrepreneurial skills development was limited. Courses offered in the third and fourth years of study placed greater focus on preparing the student for post-graduate employment, both as an employee and an entrepreneur. These courses outlined the aspects of business start-up knowledge and aimed to equip the student with the basic tools needed to take a venture into the South African business environment.

Course design

In their discussion about the process of designing EE courses, some common course objectives emerged that seemed to characterise the underlying goals across all the courses, whether they were offered as an elective or core course. These were as follows:

- Creating awareness of and exposure to entrepreneurship as a possible career path;
- Cultivating a positive perception of entrepreneurship;
- Developing entrepreneurial and business management skills; and

TABLE 1: Entrepreneurship education courses included in the study.

Faculty	Course	Programme
Design	Business studies 1	Fashion design
	Business studies 2	Industrial design
	Business studies 3	Surface design
	Business studies 4	Graphic design
Business sciences	Entrepreneurial skills 1	Financial management
	Small business management 1	Entrepreneurship
	Small business management 2	Entrepreneurship
	Marketing 2	Entrepreneurship
	Advanced project management 4	Entrepreneurship
Health sciences	Business practice 1	Dental sciences
	Business practice 2	Dental sciences
	Entrepreneurship 4	Medical imaging & therapeutic sciences
Applied sciences	Business principles 3	Marine sciences
Engineering	Building entrepreneurship 4	Construction management & quantity surveying

- Encouraging entrepreneurial activity and behaviour.

Miranda (female educator, Health Sciences) explained:

'The aim is to provide students with opportunities to acquire knowledge and develop skills necessary to plan and begin a business. And to understand the role that entrepreneurs play in the country, society, and economy.'

An additional goal was to make students see entrepreneurship as a viable career path. Sarah (female educator, Business Sciences) clarified that:

'The student mind-set has to change from being an employee to being an employer. That's a big one – if we are able to change that mind-set on the course.'

Similarly, Jamal (male educator, Engineering) said:

'Apart from giving them the knowledge, we have to develop their attitude towards business.'

Beyond the common course objectives, the instructors described other considerations and challenges associated with course design in two areas, namely, course focus and content.

Course focus

All the educators stressed the importance of a learner-centred approach and a focus on practical application starting in the first-year courses. In particular, the courses offered in non-business programmes were designed for students with little to no background in business studies. Sarah (female educator, Business Sciences) explained:

'First year is a lot more theoretical. We build solid theory, but there's a strong focus on application. To give it the entrepreneurial flavour, we use case studies of South African small businesses.'

Towards this end, another focus was to sensitise students to the role of entrepreneurship in the local economy. Abe (male educator, Business Sciences) highlighted that:

'In first year we expose the students to all of these different concepts, where they fit into the economic structure, and we create awareness of social problems.'

He said they try to get students:

'[… T]hinking of the kinds of things that can emerge that would support socio-economic development.'

To do this, the fundamentals of entrepreneurship, entrepreneurial characteristics, and personality traits were emphasised in the first-year courses. It was then that the students were exposed to the concepts of entrepreneurship, including creativity and innovation as the vital drivers of entrepreneurial activity and economic growth. Although the courses covered general principles of EE, each department had a discipline-specific focus. Abe said:

'We explore how the student can address these problems within their industry through creative solutions, while empowering themselves financially, creating a job for themselves and others.'

Nadine (female educator, Design) described using business plans to support practical application in the courses. She said:

'[… T]hat already makes them think about how they will run their own business. I take them through most of the things that you might encounter when you want to start your own label because I found that this is what students want in their fourth year.'

Course content

The presence of clear EE objectives was baseline acceptance criterion for the courses included in this study. A further review of the content of the selected courses showed that they included entrepreneurial skills and concepts, but also covered the basics of business management, with a focus on start-ups and small business. The educators believed that they needed to balance the teaching content to address industry requirements, student needs and abilities, theoretical depth to meet higher education standards, and sufficient practicality to expose and engage students with aspects of entrepreneurship.

Certain aspects of core content were consistently included across courses and programme stages. However, the content tended to progress and narrow with every year in the programme (Table 2).

Nadine (female educator, Design) noted that although there were guidelines for EE courses, the educators adapted the content in relation to their context. She explained:

'What they focus on in Durban would be different to Cape Town, will be different to Johannesburg, Pretoria, Port Elizabeth, or wherever the fashion school is.'

Similarly, Robert (male educator, Business Sciences) said:

'There is a prescribed textbook, but it's flexible because I don't rely on one textbook, as there are different materials that one would come across, that are much more relevant. After all, we are teaching a business subject where everything changes continuously.'

Some of the faculties used an industry advisory board to provide advice on the relevance of the course content. Robert from Business Sciences emphasised how he 'look[s] out for what is happening in the industry, what exactly are they doing' in order to align course curricula with real-world requirements. Accordingly, they revisit the course content and update it on an annual basis.

Educators also spoke about the challenges associated with the content. All 10 participants spoke about the difficulty of finding suitable teaching material that was relevant to their students' needs. First, they found the material was not sufficiently focused on the South African context. For example, Adele (female educator, Design) described a textbook that was:

TABLE 2: Course content by programme year.

First year	Second year	Third year	Fourth year
Introducing concepts:	Focusing on practical content:	Preparing students for post-graduation:	Implementing actions:
• Exposure to entrepreneurship	• Understanding the role of finance	• The practical aspects of business start-up	• Opportunity recognition
• Developing creativity	• Compiling a practical business plan	• Enterprise planning and practice	• Logistics of establishing an enterprise
• Familiarising the business world	• Conducting feasibility analysis	• Business and tax registration	• Financial well-being of the business
• Understanding the South African economy	• Understanding the product realisation process	• Access to funding and markets	• Understanding the regulatory environment
		• Product development and market analysis	• Risk management
		• Negotiation	• Ethical considerations
		• People skills	

'[… N]ot relevant from a South African perspective in terms of our specific company laws, or our tax laws and how Cipro[1] works, because the textbook is international.'

Material was not found to be adequately specific and relevant to start-up requirements and small business management issues. Adele (female educator, Design) said the entrepreneurship textbooks lacked a practical focus specific to industry requirements. She was concerned that:

'The textbook might not be small business or practical design orientated enough.'

The last issue was with the imbalance between material with business management focus and material with an entrepreneurial focus. Referring to another textbook, Raj (male educator, Applied Sciences) found:

'[… A]ll the chapter content is based on management and very little on entrepreneurship. There's actually only one chapter that's dedicated to entrepreneurship. Nothing on overcoming barriers, things like goal setting, innovation and to an extent, maybe networking and time management.'

To supplement the gaps in materials, the educators described how they mostly used their own teaching materials, which they sourced online or through the combination of excerpts from multiple textbooks. Eric (male educator, Health Sciences) shared how he:

'[… D]esigned my own notes, using my experience of teaching for more than 20 years and augmented my teaching material with information from the radio and news.'

Educators were also motivated to take this approach to content by their students. According to Nadine (female educator, Design), the educators:

'[… P]refer students going online, as often handbooks become old and it is important for students to keep abreast with the latest trends in their industry.'

Adele (female educator, Design) agreed that this appealed to her students as:

'[… T]heir attention spans aren't very long with the advent of digital technology and constantly getting a Facebook update.'

Course delivery

In their discussion about the process of delivering EE courses, instructors described the considerations and

1.CIPRO is the Companies and Intellectual Property Registration Office.

challenges they experienced in two areas, namely, pedagogy and assessment.

Pedagogy

Collectively, the educators used pedagogies with two aims in mind: practical application and student engagement. The educators felt strongly that the courses needed to equip students with experience in the nuts-and-bolts activities that would support an entrepreneurial venture. In the EE courses, they wanted to emphasise the 'how' more than the 'what' of entrepreneurship. Educators presented classes on:

- 'How to set up your business?' (Nadine, female educator, Design)
- 'How to do your financial analysis' (Rose, female educator, Business Sciences)
- 'How to do a market analysis if you want to start-up your business' (Eric, male educator, Health Sciences)

This approach helped bridge their other pedagogical goal to engage students by getting them involved in real processes. As Raj (male educator, Applied Sciences) explained:

'If you transfer the concept too theoretically, then you're not going to get the traction, focus and attention needed for the student to take the discipline seriously.'

The educators therefore actively encouraged students to experiment with and start their own ventures before graduating. For example, Nadine (female educator, Design) told her fashion design students:

'You've now learnt enough skills to start sewing for your friends and family, so, you start charging them and making a little bit of money.'

In terms of tools and actual methods to maintain student engagement in class, the educators employed some traditional approaches. According to Abe (male educator, Business Sciences):

'We can't be too sure what is the best methodology to use in teaching this, but we can at least rely on the methods we know and that is being used in class, such as audio-visual materials and case studies.'

Other approaches included class activities, group work, and projects where students led a collaborative learning process. Eric (male educator, Health Sciences) strongly felt that:

'Student participation is important, not to talk and chalk the whole time.'

Business Sciences educators also innovated pedagogically towards this goal with the introduction of idea generation workshops to stimulate entrepreneurial thinking at first-year level. Their aim was to show students how integrating the entrepreneurship course with other courses in their programme could unlock opportunities for starting new ventures. Jamal (male educator, Engineering), who was in the building trade prior to his academic career, showed his students how their courses could be combined in order to practise as a group of quantity surveyors.

Educators found it beneficial to bring in guest speakers from the industry to complement their teaching practice and to expose students to entrepreneurial role models. They therefore invited alumni guest speakers who could both provide a source of inspiration and help students develop their entrepreneurial network, knowledge, and skills. Robert (male educator, Business Sciences) said:

'We use guest speakers to present their stories, to motivate [*the students*] and to upscale their spirit.'

Industry role players were also recruited to complement and bring to life what was taught in the classroom, exposing the student to entrepreneurs within their own industry and allowing and encouraging them to map out possible career paths.

Course assessment

Educators found that traditional assessments were not ideal for evaluating students. To meet the objectives of their EE courses, assessments needed to evaluate both the students' understanding of theoretical concepts and their practical application of skills and tools. The educators found it challenging to assess the latter, whilst also balancing departmental assessment requirements and the academic goals of themselves. Abe (male educator, Business Sciences) summarised their concerns:

'If you take entrepreneurship as a subject area, someone may be able to pass that quite easily, but is that person able to start a business after that?'

Raj (male educator, Applied Sciences) strongly maintained that:

'This is one such subject where, I don't believe, a sit-down test is really that meaningful.'

Instead, educators designed evaluative assignments and projects that would help further the goal of practical application. Raj said:

'Assignments are based on going out to real entrepreneurs, to measure some form of activity, whether it is looking at financial or administrative structures, access to finance or determinants of success, but they get to engage with real entrepreneurs.'

Some educators even used these assessments to further student's real-world entrepreneurial journeys. According to Nadine (female educator, Design):

'Class projects become opportunities for the student to sell and market their products and earn money.'

The approach of using assessments to get students engaged with real businesses had the added effect of strengthening the network between the EE programmes and the business community. Robert's (male educator, Business Sciences) students had to act as consultants for an assessment where:

'[… T]hey first have to identify an entrepreneur, sit with that person and see how he runs his business.'

This initiative was positively received by the small businesses who requested that the engagement continue. It therefore allowed the students to learn from the entrepreneur and for the entrepreneur to gain a fresh perspective on their business from the students.

Discussion
Key findings

The broad characteristics of the EE programming at this South African UoT were consistent with many of the hallmarks of EE in higher education described in the literature – educators were very autonomous in setting the course curricula, the course objectives were designed to balance theoretical concepts with practical application, and educators felt some uncertainty around best pedagogical practices.

The apprehension educators felt around pedagogy is founded as entrepreneurial knowledge, experience, and skills are not easily attained through conventional teaching practices (Radipere 2012), and the research on effective teaching methods for EE is limited (Kamovich & Foss 2017). However, because the educators had a high degree of agency in shaping their course curriculum, they were able to incorporate teaching methods that would allow them to meet the course objectives, which ultimately hinge on providing the correct balance of theoretical and practical knowledge.

Other aspects of the educators' approach to teaching EE courses emerged as responses to the larger system in which prospective entrepreneurs are situated. In particular, the challenges and problem-solving techniques described by the educators illustrate contextual factors that played a large role in their course design and delivery. These contextual factors can be summarised as follows:

- The needs of students: the systemic nature of their experiences
- The quality of teaching materials: the limited relevance of the content
- The experience of educators: their experience with entrepreneurship and industry

Student needs

Particularly given the educational journey of most South African UoT students, the influence of student needs is

impossible for educators to ignore. When the educators observe that some of the content in the textbooks is pitched at too high a level for their students, the educators modify and adapt the content of their courses to bridge the gap. This comes through in the pedagogy they employ to ensure that they deliver course content in the most effective ways.

Beyond serving as a source of inspiration and real-world application for students, the use of real entrepreneurs as guest speakers in the class served the important additional goal of giving students lasting access to a knowledge community within their fields and outside the UoT. The students viewed these guests, who were often alumni, as peers that they could more easily relate to and build relationships with.

Coupled with the collaborative and interactive projects used by educators, these kinds of less formal learning experiences reflect the elevation of andragogy over pedagogy in teaching method. Andragogy is the adult learning approach that places emphasis on what the learner is doing whilst they learn from their peers' knowledge and experiences (Knowles 2015). In a study of South African EE, Co and Mitchell (2006) found that the small business consulting projects used by the educators for assessment purposes encouraged exposure to the actual problems and experiences of entrepreneurs. This form of teaching entrepreneurship can be described as 'education for enterprise, about enterprise and through enterprise' (Isaacs et al. 2007:625–626).

Teaching materials

Beyond the needs of the students, however, the availability of relevant teaching materials has a significant influence on how the educators deliver the course. The process of finding adequate teaching materials – in terms of regional relevance, industry relevance, and an entrepreneurial focus – emerged as one of the biggest challenges to course development. Other researchers have documented similar challenges, as in a study at the University of Zimbabwe where the faculty staff reported that the curriculum was not adequate for the purposes of entrepreneurship training (Munyanyiwa & Mutsau 2015). This issue may be linked to the interrelated and overlapping learning areas of entrepreneurship and business management, where the distinction between the two is an ongoing area of discourse (Buchnik et al. 2018; Ireland, Hitt & Sirmon 2003; Kuratko 2005). As Jack and Anderson (1999:113) explain, 'enterprise is idiosyncratic, and therefore closer to an art than a science', which makes knowledge on business management alone insufficient. The educators in this study discussed similar concerns and have therefore innovated around the dearth of formal teaching materials by becoming more hands-on in developing their own materials.

Rather than relying on textbooks or teaching cases that lack a South African or SMME focus, educators at the UoT drew from their own experience and knowledge communities, and

sourced other less formal teaching materials online. This also allowed them to attain alignment between the course objectives, the pedagogy, and the assessment criteria, which Kamovich and Foss (2017) found was necessary for effective EE instruction. Still, the shortage of material on entrepreneurship remains a missing link that instructors cannot compensate for with general management material.

Educators' experience

Given the depth of involvement of the educators in managing each of these three factors, it is clear that the educators themselves form a key part of the teaching context. It is their experience as entrepreneurs and/or small business consultants, and their continued involvement in industry, that makes it possible for the UoTs to offer EE courses that align the objectives with content and assessments. Educators in this study spoke passionately of their earlier experiences as entrepreneurs, which provided them with insight into how their entrepreneurship courses interacted with the teaching context – the programme environment, their own beliefs and experiences of entrepreneurship, and the diverse student population. They spoke with confidence about how they draw on practical examples from their own experiences and translate theoretical concepts to their students.

Although this study did not assess the efficacy of the educators and their courses on student performance, it raises the question of whether the experienced educators are indeed more effective at EE. Certainly, as Kuratko (2005) argues, educators of entrepreneurship must have the same innovative drive that is expected of their students. Others maintain that it is just a matter of investing more in the development of EE to enhance quality (Du Toit & Kempen 2020; Isaacs et al. 2007; Munyanyiwa & Mutsau 2015). At the very least, this study finds that entrepreneurial experience and positive attitudes toward EE positively influenced the educators' course delivery as even those educators without entrepreneurial experience were motivated by the belief that EE was a valuable subject for students.

Across the board, educators' understanding of the macroeconomic system that entrepreneurs enter in South Africa created a sense of meaning and importance around EE beyond just imparting specific knowledge or skills to students. They believed that the creation of more SMMEs is essential to the country's economic development and ensured that they shared this purpose with students as a means of motivating them.

Recommendations

The contextual factors influencing EE courses found in this study have implications for institutions and educators. Based on the example set by the educators in this study, the institution as a whole would benefit from collaboration with members of industry boards and professional bodies as a

standard practice across their programmes. This seems to be key to the development of course content and teaching materials that are relevant to local market requirements.

Another recommendation for institutions with an innovation orientation is to develop blended learning platforms for EE at the programme level by creating opportunities for accredited learning outside the classroom. This mode of learning could include work-integrated learning, for instance, an apprenticeship module in the SMME sector. This would provide students with exposure to their industry at an earlier stage, which may spark interest in creating their own enterprise. In this way, an alternative form of assessment that is well suited to the evaluation of EE concepts, which emphasises effective real-world application can be provided.

Regarding educators, the findings in this study and in other empirical work have identified that educators' prior exposure to entrepreneurship contributes to the efficacy of the programme. Thus, educators in this field should consider opportunities for their own continued learning in entrepreneurship, either through their own enterprise or academic training. This exposure will enhance their teaching practice through the development of entrepreneurial skills that they can incorporate into their pedagogic practice.

Conclusion

In examining the key contextual factors that influence EE course design at a South African UoT, this study highlights the challenges that higher education institutions face in designing courses that are effective at promoting entrepreneurship locally. It also showcases the prominent, if not singular, role educators play in solving problems, addressing challenges, and ensuring that EE contributes to a broader economic agenda by bringing their own passion, educational expertise, and practical knowledge to the classroom. Institutions must be made aware of the value of this contribution to their programming, but also ensure that educators are adequately supported to continually improve and advance effective EE.

Limitations and future research

Few studies are without methodological drawbacks. The interview data collection approach, which is arguably more demanding on participants than a survey, may have introduced a self-selection bias that limited the views and types of educators represented in the study. Representation could have been improved by including a larger percentage of EE educators through a more accessible data collection tool, although the depth of the data may be compromised in the process.

Based on the findings of this study, future research could focus on the issue of teaching materials in South Africa, providing a detailed inventory of the criteria set by educators to effectively deliver their courses. Importantly, this research could create future opportunities for collaboration between UoTs and the local business community to develop materials

(e.g. teaching cases, articles, texts, teaching modules) that can be mutually beneficial.

Another potential EE research strand is to investigate pedagogic practice within a specific EE course. Because the educators in this study expressed uncertainty around the best EE pedagogies, a useful study could formalise and pilot different learning approaches to the same EE topic and compare the impact on students in terms of self-efficacy or entrepreneurial attitudes.

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