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Teachers' attitudes and challenges towards the implementation of entrepreneurship education in Limpopo primary and high schools

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With this study we aimed to investigate teachers' attitudes and challenges towards the implementation of entrepreneurial education in South African primary and high schools in the Mopani district of the Nkowankowa circuit in the Limpopo province. Simple, random sampling was used to select 101 teachers from 25 rural schools. The quantitative method was employed to investigate teachers' attitudes and challenges towards the implementation of entrepreneurial education. A questionnaire was used to collect data on the teachers' attitude towards entrepreneurship education. In this article, 2 factors – teachers' attitudes towards entrepreneurship education and entrepreneurship education challenges within school constructs – are discussed. The statistical package for the social sciences (SPSS), with the aid of descriptive statistics, was used to analyse the data. The Cronbach alpha scores for all internal consistency scales were 0.90. The reliability test indicates that 0.80 and above is more reliable, and 0.90 offers the best scores. Face validity was established by determining the factor structure of the instrument. Concerning Bartlett's test of sphericity, the Kaiser-Meyer-Olkin (KMO) was found to be 0.805, and it was statistically significant ($p < 0.05$). Literature reports that KMO values between 0.7 and 1 indicate that the sampling is adequate. The results show that 96% of teachers felt that the challenge with regard to the implementation of entrepreneurial education was a lack of training. The results disclose that the majority of teachers (93.1%) indicated that entrepreneurship education was relevant in schools. Based on these findings, we propose that entrepreneurship should be implemented as a standalone subject within the basic education curriculum. In support of this vision, financial and physical resources are a vital propellant in achieving this trajectory.

Keywords: challenges; curriculum; entrepreneurship education; high schools; primary schools; teachers' attitudes

Introduction

The rationale for this study was the premise that South Africa has a high youth unemployment rate. The unemployment rate of young people aged between 15 and 34 years was 38.2% in 2018 (Statistics South Africa, 2017, 2018), and increased dramatically to 60.8% in 2024 (Trading Economics, 2024). Subsequently, youth unemployment was declared a national crisis calling for urgent attention (Lebakeng & Matebese-Notshulwana, 2024). Entrepreneurship has been promoted to become a liberator to unemployment (Muogbo Uju & John-Akamelu, 2018; Tošović-Stevanović & Jovancai Stakić, 2024) and previous studies have called for its inclusion in the basic education curriculum (Malope, 2017; Pukkinen, Hytti, Heinonen & Stenholm, 2024). Although entrepreneurship education has been implemented in South African schools (North, 2002) it has not yet yielded the desired entrepreneurial effect for South African youth (Bodibe, 2016).

Morakinyo and Akinsola (2019) define entrepreneurship as the individual's ability to convert ideas into action, including planning to achieve goals, innovation, creativity and risk-taking. Leffler (2020) argues that entrepreneurship is one of the main competences for lifelong learning. We define an entrepreneur as someone who creates jobs to contribute to economic growth, adding innovation as an important aspect. This implies that entrepreneurship is promoted as the key to economic growth, subsequently combating unemployment (Organisation for Economic Co-operation and Development [OECD], 2017; Vogel, 2015).

However, the problem is that entrepreneurship, which is currently incorporated in life skills (Grades 1–3), economic management sciences (Grades 4–9) and commercial subject streams (Grades 10–12) in the basic education curriculum (North, 2002), is not yielding business-minded youth (Bodibe, 2016). From a worldview perspective, teachers are widely recognised as critical components in the pursuit to improve schools (Harris & Jones, 2019). Without implying that teachers are entrepreneurial experts, we argue that teachers should be leaders in improving the teaching and learning of entrepreneurship. We argued that if teachers' attitudes towards entrepreneurship are positively influenced through entrepreneurial education, it will subsequently lead to the desired entrepreneurial behaviour in learners (Lackéus, 2015). Limited research has been done on entrepreneurial leadership practices in schools, especially from the teachers' perspectives (Pihie, Asimiran & Bagheri, 2014) and with this study we contribute to lessening this gap in the literature.

Literature shows that the concept of attitude has received increasing attention in research relating to entrepreneurship education (Fayolle & Gailly, 2015). Fayolle and Gailly (2015) state that the reason for this increase could be attributed to the usefulness of entrepreneurship education in predicting entrepreneurial behaviour and understanding how attitudes are formed. In an attempt for teachers to impart entrepreneurial qualities and skills to learners, teachers should extend unwavering beliefs and attitudes towards implementing the subject (Nani, 2016). This implies that, should attitudes have changed positively afterwards, the relevant entrepreneurial education can be deemed successful (Lackéus, 2015).

Entrepreneurial principles are not just empowering for teachers – they have the potential to transform leadership and management across educational settings. Teachers do not operate in a vacuum, but work in conjunction with various key stakeholders such as principals and the Department of Education. The study revealed that school principals should execute their duties based on leadership principles, which includes entrepreneurial leadership characteristics, knowledge and competence (Pihie et al., 2014). This is important since the school principal would be able to apply entrepreneurship skills in the running of the school, thereby encouraging creative thinking and promoting a strong sense of self-worth and empowerment (Amadi & Eze, 2019). In a school setting, the principal serves as the professional leader. Teachers manage their learners in the classroom, rendering them leaders.

The benefit of entrepreneurship education lies in its ability to foster and promote entrepreneurial intent (Bux, 2016). To boost entrepreneurial intent, Afolabi (2015) indicates that in Nigeria, entrepreneurship must be included at all levels of the education system. As indicated earlier, South Africa heeded this call by integrating entrepreneurship education into life skills (Grades 1–3), economic management sciences (Grades 4–9), and commercial subject streams in Grades 10 to 12 (North, 2002; Ntsanwisi, 2021). The advantages thereof lie in that entrepreneurship education promotes problem-solving skills, innovation and technology skills (Manikandan & Muthumeenakshi, 2018). These skills are critical for teachers to integrate into their teaching practice.

Despite the benefits of entrepreneurship education, various challenges influence entrepreneurship education and activities, impacting the attitudes of teachers towards the subject. The challenges relate to professional training, a lack of academic programmes to teach entrepreneurship education, and a lack of good theoretical bases from which to build a curriculum (Qosja, 2014). Johansen (2018) investigated the Innovation Cluster for Entrepreneurship Education (ICEE) in terms of impact. Johansen's (2018) study is relevant here as its focus was on determining the attitudes of different stakeholders, including teachers, on entrepreneurship education across Europe. Johansen reports that most of the teachers who participated in his study mentioned inadequate competence and insufficient time to engage in entrepreneurship education (Johansen, 2018). Concerning business people, Johansen (2018) mentions that schools lack support and business people are seldom available as volunteers to assist with entrepreneurship education. The same lack of commitment from business people to support schools with entrepreneurship skills has been observed in South Africa (Nchu, 2015).

In lieu of the above, we aimed to investigate teachers' attitudes and challenges towards entrepreneurship education in South African primary and secondary schools. To accomplish this, two constructs of the instrument on teachers' attitudes towards entrepreneurship education was employed. Firstly, we identified the challenges encountered by teachers. This was followed by determining teachers' attitudes towards entrepreneurship education.

Literature Review

Entrepreneurial value

Setting aside the lack of entrepreneurs to curb unemployment in South Africa, the benefits of entrepreneurial education are well documented in current literature (Bux, 2016; Perez, Martins, Mahauad & Sarango-Lalangui, 2024). These authors argue that, at the forefront of entrepreneurship, education motivates entrepreneurial intent. Osakwe (2015) identified entrepreneurship education for national growth and development, career preference for self-employment, enhancement and management of innovation, and creativity in small-scale businesses as promoting factors. Agweda and Abumere (2008) identified the benefits relating to team-building skills as being the acquisition of entrepreneurial skills and attitudes for national growth development and the reduction of unemployment after graduation.

Additionally, Malindi (2014) argues that entrepreneurship education is about encouraging creative thinking and promoting a strong sense of self-worth and empowerment. It is not about teaching someone to run a business (Amadi & Eze, 2019). This suggests that beyond starting a business, other important and useful skills for everyday living and possible future endeavours are to be gained. To underpin the promotion of entrepreneurship education means to create a positive relationship between entrepreneurship education and entrepreneurial intent (Bux, 2016). The results of a study by X Wei, Liu and Sha (2019) reveal that entrepreneurship education influences innovation. This implies that learners need to be inspired to become doers and innovators and must be taught to think business (Parker, 2018).

Entrepreneurship education has been introduced in primary and secondary schools in Finland and Mexico – with both countries reaping the rewards (Cárcamo-Solís, Arroyo-López, Alvarez-Castañón & García-López, 2017; Seikkula-Leino, 2008). Seikkula-Leino (2008) highlights the entrepreneurship education reward among the youth between the ages of 15 and 23, who proceeded to start a business. The author reports that 66.5% of the students had a positive attitude towards entrepreneurship, while 64.4%

continued to study towards starting a business. It was reported that between 2009 and 2014, 1,327 new mini-companies per state in Mexico developed through an entrepreneurial programme that involved teams consisting of four children and one advisor (Cárcamo-Solís et al., 2017).

The authors indicate that the development of entrepreneurial knowledge, values and skills also increased. In the United States of America more than 125,000 students attended entrepreneurship education classes resulting in more than one million new businesses being started every year (Baum, Frese & Baron, 2007). Therefore, entrepreneurship is an important component in the quest to eradicate unemployment. In South Africa there is a need to explicitly implement entrepreneurship as a standalone subject throughout the basic education curriculum. We argue that entrepreneurship education produces independent leaders, entrepreneurs, self-employed managers, and chief executive officers.

Entrepreneurship challenges and teacher attitude

Despite the global benefits of entrepreneurship, several studies have identified various challenges relating to entrepreneurship education (Farid & Rahman, 2020; Johansen, Aae, Elder & Valle, 2018; Kuratko, 2003; Martinez, Levie, Kelley, Sæmundsson & Schøtt, 2011; Nani, 2016; North, 2002; Ogina, 2022). In this regard, Johansen et al. (2018) indicate that teachers lack the financial support and professional training in effecting entrepreneurship education. Kuratko (2003) mentions the lack of academic programmes to teach entrepreneurship education, and the lack of good theoretical bases from which to build a curriculum. Farid and Rahman (2020) label entrepreneurship challenges to be of an external and personal nature. Personal challenges include a lack of interest in entrepreneurship education and a low understanding of the concept. External challenges stem from inadequate support from schools' administrative offices (Farid & Rahman, 2020). Challenges identified by Ogina (2022) relate to limited mentorship, the absence of sponsorship, a lack of entrepreneurship training, the lack of support from colleagues and the general school community, a lack of resources such as study guides and textbooks, as well as a lack of necessary equipment to facilitate entrepreneurial activities. Ogina argues that these challenges obstruct the effective and productive teaching of entrepreneurship in school. It may be argued that these challenges have a negative influence on entrepreneurship education in South Africa, even though the intention is to inculcate an entrepreneurial culture.

Similarly, Martinez et al. (2011) report that the European commission's goal of entrepreneurship education was to promote creativity, innovation and self-employment. Entrepreneurship education and training go beyond the mere development of specific business skills – it should be explicitly incorporated rather than merely implied (Riley, 2012). This is important, as entrepreneurship is promoted to play a significant role in innovation and economic development (Hatak & Reiner, 2012).

Should creative thinking and the encouragement of a strong sense of self-worth and empowerment not be emphasised in entrepreneurship education, there is a strong likelihood that learners will be passive, and, therefore, lack the necessary innovative skills allowing them to think business. One may also argue that if entrepreneurship education is not taught as a standalone subject, South Africa will continue to face high youth unemployment rates. Consequently, the preference for self-employment may not materialise, hindering the country's growth and development.

The challenges emanate from several stakeholders, including the Department of Education, the Minister of Education, school principals, teachers, pedagogy and business people (Johansen, 2018). The Ministry of Education does not formally support entrepreneurship education, and many school principals lack the time and expertise to implement it (Sommarström, Oikkonen & Pihkala, 2020). As a result, disparities persist between well-resourced and underperforming schools. Despite the entrepreneurial potential of principals, a shift in school management is necessary to close this gap (Mestry & Blake, 2009). A general belief among teachers is that the teaching of entrepreneurship is not important. Most teachers display inadequate competence in entrepreneurship education, and do not have sufficient time to engage in the subject (Hema & Acharaya, 2024).

Another key challenge is that entrepreneurship education is not adequately integrated into the education curriculum (Ruskovaara & Pihkala, 2013). Nwogu, Owhondah and Aleru (2013), who conducted a study in Nigeria, found the same. Ncube (2022) mentions that schools lack support, and business people are seldom available as volunteers for entrepreneurship education training, which is also the case in South Africa (Nchu, 2015).

Given the afore-mentioned challenges regarding entrepreneurship education, it is crucial to examine teachers' attitudes toward this subject. Attitude, in this study, refers to a psychological tendency expressed by means of evaluating a particular entity with some degree of favour and disfavour (Kroenung & Eckhardt, 2011). Kroenung and Eckhardt (2011) argue that attitude refers to opposites, such as like vs dislike, favourable vs unfavourable, and positive vs negative. In most cases, attitudes that may be negative or positive

towards an object or person, are measured through instruments (Angelidou, Aguaded-Ramírez & Rodríguez-Sabiote, 2019). A negative attitude is associated with words such as dislike, unfavourable, sad and angry. In contrast, words such as excited, like and favourable would be associated with a positive attitude (Albarracín, Sundararajan, Lohman, Chan & Jiang, 2018).

Entrepreneurship education in South Africa

In South Africa, entrepreneurship was integrated into life skills (Grades 1–3), economic management sciences (Grades 4–9) and commercial subjects in Grades 10 to 12 (North, 2002). It may be argued that entrepreneurship education has not yielded the desired entrepreneurial intent among South African youth (Bodibe, 2016). The proposed solution is an increase in quality and quantity of entrepreneurship (Wei, W & Duan, 2024). Entrepreneurship is important in the quest to eradicate unemployment in South Africa, and there is a need to explicitly implement entrepreneurship throughout the basic education curriculum. Ncube and Matlala (2024) highlight the importance of entrepreneurship education in a country such as South Africa, which needs to empower its citizens with knowledge and skills. At school, entrepreneurship education assists learners to acquire core knowledge associated with entrepreneurship (Andriadi & Idrus, 2024). North (2002) investigated entrepreneurship education in Gauteng schools, and reports that learners indicated that they would like to receive entrepreneurship education. Furthermore, learners wanted entrepreneurship to be included as a subject in the basic education curriculum (Gwija, Eresia & Iwu, 2014; North, 2002).

Theoretical Framework

Framework for teachers' attitudes towards entrepreneurship education

A plethora of theoretical frameworks relating to entrepreneurial education exists, such as the systematic framework, the theory of planned behaviour, and the model of teachers' attitudes towards the entrepreneurial education (Bux, 2016; Ghina, Simatupang & Gustomo, 2014; Johansen et al., 2018; Lackéus, 2015). The systematic approach is used to examine perceptions towards entrepreneurship education (Ghina et al., 2014). The theory of planned behaviour posits that entrepreneurial attitudes affect entrepreneurial intentions, which in turn determine entrepreneurial behaviour (Bux, 2016; Lackéus, 2015). It is important to note that the foregoing theories are not linear but interrelated. We followed this guideline to identify a framework best suited to addressing the research question (Grant & Osanloo, 2014). For this study we adopted the model developed by Johansen et al. (2018) relating to teachers' attitudes towards entrepreneurial education. Essentially, Johansen et al. (2018) built this model on the foundation that entrepreneurship education incites entrepreneurial intent in learners. Consequently, it may be argued that teachers' attitudes to the implementation of entrepreneurship plays a very important role.

We adopted Johansen et al.'s (2018) model to examine teachers' attitudes towards implementing entrepreneurship education in the Limpopo province, South Africa. The model builds on the notion that teachers are the effectors of education to the recipients, being the learners. Therefore, to train entrepreneurial learners, there is a need for entrepreneurial teachers (Johansen, 2018). The model comprises four constructs: entrepreneurship education at school, the importance of entrepreneurship education to learners, entrepreneurship education challenges, and attitudes towards entrepreneurship education. For the purpose of this study, two constructs were examined, namely, entrepreneurship education challenges, and attitudes towards entrepreneurship education.

Entrepreneurship education challenges

Concerning entrepreneurship education challenges, research identified several concerns relating to the implementation of entrepreneurship education in schools (Amadi & Eze, 2019; Johansen, 2018). These challenges are brought about by several stakeholders, including the Department of Education, the Minister of Education, school principals, teachers, pedagogy and businesspeople (Nchu, 2015). The endorsement of entrepreneurship education has not been made a priority by the Department of Education (Thabethe, 2019). School principals lack the knowledge and do not have sufficient time to engage in entrepreneurship education (Sommarström et al., 2020). The main challenge regarding teachers is that they do not believe in the importance of entrepreneurship education (Fejes, Nylund & Wallin, 2019). Most teachers display inadequate competence and do not have sufficient time to engage in entrepreneurship education (Janowski & Szczepańska – Przekota, 2024).

Attitudes towards entrepreneurship education

Johansen (2018) is of the view that entrepreneurship education should be embedded as a subject in the curriculum. One should keep in mind that global and local education has undergone many curriculum reforms relating to entrepreneurship education (Mohamed & Mohamud, 2024). Amadi and Eze (2019), Cárcamo-Solís et al. (2017), Yulastri, Hidayat, Ganefri, Islami and Edya (2017) report that entrepreneurship education has been incorporated as a compulsory subject in the curriculum. In South Africa, entrepreneurship is embedded in life skills, economic management sciences, and commercial

subjects (North, 2002). One may argue that, since entrepreneurial intent is lacking among the South African youth (Bodibe, 2016), more time is required to teach entrepreneurship. Thus, the call is for entrepreneurship to play a more prominent role throughout the South African education system (Erkillä, 2000; North, 2002).

Research Question

The main research question in the study reported on here was: What are teachers' attitudes and challenges towards the implementation of entrepreneurship education in the basic education curriculum?

Methodology

To answer this question, the positivist paradigm was chosen for this study, as it is mostly associated with quantitative research (Musa & Aldiabat, 2024) relating to numerical data (Saunders, Lewis & Thornhill, 2016). The descriptive design was used to guide data collection techniques such as surveys and fact-finding inquiries (Samanth, 2024). Johansen et al.'s (2018) questionnaire on teachers' attitudes towards entrepreneurship education was employed in this study as an instrument to determine teachers' attitudes towards entrepreneurship education.

Teachers completed the questionnaire at their schools during lunchtime not to interfere with or disrupt their teaching and learning. For this article, two constructs were analysed, teachers' attitudes towards entrepreneurship education (TATEE) as first factor, and entrepreneurship education challenges at school (EECS) as second factor.

The Limpopo Department of Basic Education (DBE) granted approval for this study while the Tshwane University of Technology granted ethical approval. Respondents participated on the condition of anonymity, as their names were not required. Most importantly, participation was voluntary. This assisted to make the research ethically sound.

Version 25 of the Statistical Package for the Social Sciences (SPSS) was used to analyse the quantitative data. To establish reliability, Cronbach's alpha (Cronbach, 1951) was used. Table 1 shows the Cronbach alpha score for internal consistency of the entire scale with 26 items as 0.90. The alpha values for the subscales ranged between 0.89 and 0.90. The reliability test showed that 0.70 was good, above 0.80 even more reliable, with 0.90 offering the best score (Tavakol & Dennick, 2011). Since the values ranged between 0.89 and 0.90, reliability was acceptable.

Table 1 The mean, standard deviation, and Cronbach's alpha scores for the entire scale

Scale		*M*	*SD*	α
	Teachers' attitudes towards entrepreneurship education (TATEE)			
TATEE1	Entrepreneurship education should be embedded as an explicit objective in the curriculum	4.33	.939	.90
TATEE2	Entrepreneurship education should be embedded as a subject in the curriculum	4.53	.715	.90
TATEE3	Entrepreneurship education should be integrated into existing subjects as a topic in the curriculum	4.50	.890	.90
TATEE4	Entrepreneurship education should be embedded as interdisciplinary projects in the curriculum	4.27	.948	.90
TATEE5	Entrepreneurship education is very relevant in schools	4.61	.748	.90
TATEE6	Entrepreneurship education should have high priority in general/academic education	4.48	.844	.90
TATEE7	Entrepreneurship education should focus on methods based on real experience (e.g., learner mini-companies, project work with real enterprises)	4.50	.743	.90
TATEE8	All learners should have at least one practical entrepreneurship experience before exiting basic education	4.57	.683	.90
TATEE9	Teachers should be offered training in entrepreneurship education	4.70	.609	.90
	Entrepreneurship education challenges in school (EECS)			
EECS1	The Department of Basic Education has not made entrepreneurship education a priority	4.33	.939	.90
EECS2	The ministry of education does not endorse entrepreneurship education	4.53	.715	.90
EECS3	My school principal does not believe in the importance of entrepreneurship education	4.50	.890	.90
ECCS4	My school principal has inadequate competence in entrepreneurship education	4.27	.948	.90
EECS5	My school principal does not have enough time to engage in entrepreneurship education	4.61	.748	.90
EECS6	Most teachers do not believe in the importance of entrepreneurship education	4.48	.844	.89
EECS7	Most teachers have inadequate competence in entrepreneurship education	4.50	.743	.89
EECS8	Most teachers do not have enough time to engage in entrepreneurship education	4.57	.683	.89
EECS9	Business people support schools with entrepreneurship education	4.70	.609	.90
EECS10	Entrepreneurship education teaching methods are generally not considered effective	3.70	1.316	.89
EECS11	There is no academic credibility in entrepreneurship education	3.48	1.277	.89
EECS12	Entrepreneurship education is not very well integrated into the curriculum	2.90	1.323	.89
EECS13	There is a lack of quality entrepreneurship education material (practices, guidance, teaching instruments, and methods)	2.93	1.283	.89
EECS14	There is a lack of quality teacher training in entrepreneurship education	2.97	1.410	.89
EECS15	Information about entrepreneurship education is poorly disseminated to schools	2.76	1.335	.89
EECS16	Entrepreneurship education often depends on the efforts of a single teacher or a few teachers	3.15	1.291	.89
EECS17	Business people are seldom available as volunteers for training and support	3.17	1.350	.90

Face validity was established by determining the factor structure of the instrument. Table 2 shows the results from the Kaiser-Meyer-Olkin measure (KMO) and Bartlett's test. The KMO for Bartlett's test of sphericity was found to be 0.805, and it was statistically significant ($p < 0.05$). Face validity was established, since literature reports that the KMO values between 0.7 and 1.0 indicate that the sampling is adequate (Kaiser, 1974).

Table 2 Kaiser-Meyer-Olkin measure and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		.805
Bartlett's test of sphericity	Approx. Chi-Square	1525.802
	df	325
	Significance (Sig.) level	.000

To establish the face validity of the scores from the TATEE questionnaire, the exploratory factor analysis was computed. Face validity was established, since literature reports that the TATEE questionnaire comprises four constructs (Johansen et al., 2018). In this study, a factor loading value of 0.5 was used as the cut-off point. Table 3 shows the principal component analysis with varimax rotation of the two constructs of the TATEE.

Table 3 Principal component analysis with varimax rotation of the two constructs of the TATEE

	1	2
EEC5	.846	
EEC7	.800	
EEC6	.793	
EEC8	.784	
EEC3	.733	
EEC4	.708	
EEC11	.618	
EEC1	.596	
EEC10	.560	
EEC2		
EEC9		
EEC17		
EEC14		.660
TATEE7		.589
EEC15		.587
EEC13		.581
EEC12		.575
TATEE8		.575
TATEE2		.566
TATEE9		.523
EEC16		.510
TATEE1		.507
TATEE4		
TATEE5		
TATEE6		
Eigenvalues	35.4	10.4
Total variance (%)	31.3	14.5
Alpha (α)	.90	.87

Note. **Bold** items did not load at all. EEC = entrepreneurship education challenges.

Using varimax rotation, we ran the two-factor solution. We achieved two factors with an eigenvalue of 46%. Factor 1 (EECS) loaded with nine items. EECS2, EECS9, and EECS17 did not load. Table 3 shows that EECS12, EECS13, EECS14, EECS15, and EECS16 loaded with TATEE.

Furthermore, TATEE3, TATEE4, TATEE5, and TATEE6 did not load anywhere.

Table 3 indicates that two factors resulted from the Varimax rotation, with 46% of the total variance explained. Based on the two factors as described by Johansen, face validity was acceptable.

Participants

The population of this study comprised 375 teachers from 25 schools (10 secondary and 15 primary schools) in the Mopani district, Nkowa-Nkowa; an education circuit in the Limpopo province, South Africa. Nkowa-Nkowa was selected as it was the researcher's place of residence. Simple, random sampling was used to select 101 teachers from 25 rural schools. The sample included teachers who taught life skills, economic management sciences and commercial subjects. Simple, random sampling was selected since it affords every member of the population an equal chance to be chosen for the sample (Garg, Dhull, Kalluri & Agrawal, 2024). Table 4 shows the biographical data of the participants. One in three teachers (61.3%) were female and 38.6% were male. The table shows that 32 (31.7%) female and 22 (21.8%) male teachers had more than 6 years' experience in teaching entrepreneurship. Table 4 indicates that 35 (34.6%) teachers were between 41 and 50 years old and 34 (33.7%), teachers were 51 years old and above. Fifty-four teachers (53.5%) who had been teaching entrepreneurship for more than 6 years indicated they had never received training in the subject. Thirty (29.7%) teachers received formal training in the subject, yet had no entrepreneurship teaching experience.

Table 4 Participants' biographical data

Entrepreneurship teaching experience		0 years	1–5 years	6+ years	Total
Gender	Male	10	7	22	39
	Female	20	10	32	62
Total		30	17	54	101
Age	20–30	7	2	11	20
	31–40	5	1	6	12
	41–50	12	6	17	35
	51+	6	8	20	34
Total		30	17	54	101
Entrepreneurship training	Formal	30	0	0	30
	Informal	0	17	0	17
	None	0	0	54	54
Total		30	17	54	101

Instrument and Procedure

The TATEE instrument used in this study consists of two sections. Section A includes biographical information while Section B comprises two factors with 26 items relating to teachers' attitudes towards the implementation of entrepreneurship education in school. The participants were requested to rate their responses on a 5-point Likert-type scale; 5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly disagree. Examples of items from the first factor are (i) Entrepreneurship education should be embedded as an explicit objective in the curriculum, and (ii) Teachers should be offered training in entrepreneurship education. Examples of items from the second factor are (i) The DBE has not made entrepreneurship education a priority, and (ii) The member of the executive council of education does not endorse entrepreneurship education. Data from the questionnaire instrument were captured in Microsoft Excel and analysed using the SPSS with the aid of descriptive statistics.

Results

Entrepreneurship Education Challenges

All participating teachers completed the questionnaire. The results for the 26 items of the two constructs of the TATEE instrument are presented based on the items that proved to be statistically significant. Regarding the 17 items relating to entrepreneurship education challenges, one in three teachers (65.4%) agreed (34.7%) and strongly agreed (30.7%) that a need existed for quality teacher training to effectively teach entrepreneurship education (EEC14). The results further reveal that fewer than one in three teachers (64.4%) agreed (34.7%) and strongly agreed (29.7%) that a need existed for entrepreneurship information to be adequately circulated to schools (EEC15). It was also found that 68.4% of the teachers either agreed or strongly agreed that entrepreneurship education often depended on the efforts of a single teacher, or a few teachers (EEC16). This suggests that approximately one in three teachers felt that entrepreneurship was still not widely embraced. The results show that 60.4% of the teachers agreed and strongly agreed that business people were seldom available as volunteers for training and support (EEC17). This indicates that there was a lack of volunteers from the business sector to train and support entrepreneurial education endeavours in schools.

Teachers' Attitudes Towards Entrepreneurship Education

In terms of the nine items relating to teachers' attitudes towards entrepreneurship education (TATEE), the participants were required to indicate whether training in entrepreneurship education should be provided (TATEE9). The results show that most teachers (96%) agreed (19.8%) and strongly agreed (76.2%) with the statement, indicating the need for teachers to be trained in entrepreneurship education. It was found that most teachers (93.1%) agreed to strongly agreed that entrepreneurship education was very relevant in schools (TATEE5). This suggests that entrepreneurship is important and appropriate in schools. The results on TATEE2 show that most teachers (91.1%) agreed (26.7%) and strongly agreed (64.4%) that entrepreneurship should be included as a subject in the curriculum. The results also reveal that most teachers (91.1%) agreed (23.8%) and strongly agreed (67.3%) that all learners should have entrepreneurship experiences before leaving school (TATEE8).

Discussion

Entrepreneurship Education Challenges

From the analysis of data, it was found that teachers required quality teacher training to effectively teach entrepreneurship education. A call has been made to implement training programmes in schools to successfully implement entrepreneurship education (Valerio, Parton & Robb, 2014). The teachers believed that, if they could be empowered and equipped with the necessary skills and teaching methods to teach the subject, they would be competent and in a position to teach the subject efficiently. The reason for this might be that teachers did not have access to adequate teaching and learning material during the initial implementation of the subject – entrepreneurship information being poorly disseminated to schools. The best way to develop and capacitate people is through training and education (Cooney, 2012). In this regard, formally or informally infusing entrepreneurship in education would serve to build an innovation knowledge-base (Hamdan, 2019). Deveci and Seikkula-Leino (2018) recommend that teachers receive training, even if it is at a basic level, to master the art of enforcing business skills.

Teachers were of the opinion that not enough information on the subject or how it should be taught was disseminated. This could be attributed to the fact that they were teaching the subject without sufficient supporting material or information on how it should be taught. It could also be that they believed that the school principals were not disseminating enough information to them. This view is supported by Pihie et al. (2014), who indicate that school principals needed to disseminate information guided by entrepreneurial leadership characteristics. If information is widely distributed this could arguably empower teachers and build their self-esteem to teach entrepreneurship. This agrees with propositions by Minna, Elena and Timo (2018) who place the principal at the centre of entrepreneurship

education, and further suggest that principals need to be competent and have the appropriate training.

We also found that entrepreneurship was not widely embraced by most staff members. Teachers may have believed they were the only ones implementing the subject, or they may have felt that other teachers lacked a general understanding thereof. Fayolle and Gailly (2015) encourage teachers to work in teams in order to teach the key concepts of entrepreneurship. Furthermore, teachers could use the production-based learning method to teach entrepreneurship (Ntsanwisi, 2021; Yulastri et al., 2017). Production-based learning is a vocational education and training model that develops learners' skills and knowledge by engaging them in creating and evaluating products, thereby preparing them for the workforce (Ganefri & Hidayat, 2015). The production-based learning approach encourages active learning.

It was also found that teachers indicated a lack of volunteers from the business sector to train and support entrepreneurial education endeavours in schools. Teachers knew that if the business sector could network and collaborate with schools, it would be easier to teach the subject if experts could share their real-life experiences. Networking is considered to be one of the best resources for professional success, entrepreneurship and career development (Indeed Career Guidance, 2020). Should teachers be able to establish such networks, learners might develop and produce ideas of great economic importance (Azoulay, Jones, Kim & Miranda, 2020). In South Africa most local businesses do not share business ideas on how to venture into business with schools. Even when they do partner with a school, they do not engage in collaborative teaching with teachers to share their business skills. This is in contrast with Johansen et al.'s (2018) findings that teachers received support from and collaborated with local businesses. This was reinforced by Afolabi's (2015) call for increased financial participation from the private sector.

Teachers' Attitudes Towards Entrepreneurship Education

The teachers acknowledged the necessity for training on entrepreneurship education, an opinion shared by Deveci and Seikkula-Leino (2018) in a study conducted in Finland. In our study teachers indicated that entrepreneurship was very relevant in schools and needed to be taught due to the positive elements associated with entrepreneurship. Living in a country with a high unemployment rate it could be thought that teachers considered entrepreneurship to be a way out of poverty, and a possible alternative to the "complete school and get a job" trajectory, which is not yielding results. Entrepreneurship is widely regarded as the key to economic growth (Azoulay et al., 2020). This is important in a country such as South Africa where the unemployment rate is a serious challenge. Beyond simply starting a business, other important competencies can be derived from entrepreneurship, including creativity, innovation and self-worth (Malindi, 2014).

The results show that the teachers were of the view that entrepreneurship should be implemented as a standalone subject in the basic education curriculum. However, North (2002) argues that teachers are not engaged in curriculum reform, even though they disseminate the information in the classroom (North, 2002). It could be that teachers believed that entrepreneurship as standalone subject would be allocated more time and resources. Learners would be able to grasp and apply entrepreneurship concepts and start businesses at an early age. In addition, learners could have a different perspective on education and create jobs rather than simply learning to become employees. Literature asserts that the development of entrepreneurs could positively decrease the unemployment rate and encourage the youth to become job creators as opposed to job seekers (Ethelmary, Emehelu & Oboreh, 2019; Vogel, 2015). Entrepreneurship, as is currently implemented in commercial subjects within primary and high schools, is not yielding entrepreneurial intent among the youth (Bodibe, 2016). The basic education curriculum could benefit by incorporating elements from the entrepreneurial training programme of the University of the Witwatersrand, which is currently only available through the Postgraduate Certificate in Education (PGCE) and not integrated in the Bachelor of Education (B.Ed.) programme. By embedding entrepreneurial principles into core subjects such as accounting, business studies, and economics within the B.Ed. curriculum, future educators would be better prepared to instil these crucial skills in learners from an earlier stage, thereby fostering an innovative and entrepreneurial mindset in the education system.

The results indicate that teachers were of the view that, in addition to the theoretical implementation, learners needed to be practically involved in businesses. Teachers believed that entrepreneurship, which also developed competencies of creativity and risk-taking (Leffler, 2020), needed to be experienced practically. Teachers thought that it was important that learners, while at school and of a young age, learn about the importance of starting their own businesses, come up with business ideas, and implement these. In this regard, North (2002) refers to a practical project implemented in a Gauteng school where Grade 7 learners would host an entrepreneurship day. During the business day project, learners had an opportunity to sell their products. Parker (2018) pointed out that learners

needed to be inspired in order to become doers and innovators.

Conclusion

If entrepreneurship education is comprehensibly presented with the teacher at the forefront, the implementation thereof can develop entrepreneurially minded youth in South Africa. Furthermore, the current challenges experienced in the implementation of entrepreneurship education could be addressed by means of capacitating our teachers and getting them involved in curriculum design. Should teachers be involved from the onset, it could improve their attitudes towards the subject. Furthermore, teachers require increased competency in teaching the subject. It is essential for teachers to gain enough information so that they can embrace entrepreneurship education. Teachers should be encouraged to implement production-based learning methods to promote active learning.

Teachers need to be encouraged to take the lead in improving the teaching and learning of entrepreneurship as a subject, as opposed to simply being spectators. If more attention could be given to entrepreneurship teaching and learning in schools as a standalone subject, it could have a positive influence on learners. Learners could be equipped with the necessary skills required to develop and implement business ideas, and ultimately start their own businesses at an early age. It is worth noting that, in order to achieve the desired outcome, more time and resources are required to teach the subject.

To combat the high unemployment rate among the South African youth it is imperative to alleviate entrepreneurial shortcomings. As derived from this study, teachers should liaise with external stakeholders to improve on ideas and solutions to effectively present the subject. This could render the subject to be more practical and realistic. The business sector should become involved in entrepreneurship education, and establish collaborative networks with teachers.

Entrepreneurship, as one of the major solutions to poverty, economic growth and job creation, should be regarded as a relevant subject in schools. This could have a positive impact on learners' entrepreneurial mindset and being business-minded from an early age. The real-world entrepreneurship space and its place within society could become a priority to learners. This can only be achieved if teachers' attitudes towards and the challenges experienced in terms of the implementation of entrepreneurship education are addressed by all internal and external stakeholders.

As a result, it is important for teachers with the relevant qualifications to teach the subject. In addition, teachers need to attend continuous, professional development to be equipped with the relevant teaching and learning methods to teach the subject, such as the production-based learning approach (Ntsanwisi, 2021; Yulastri et al., 2017). It is recommended that entrepreneurship education is presented as a standalone subject in the basic education curriculum to add more value to learners' education. Furthermore, sufficient time and resources should be allocated for relevant skills to be learnt.

Authors' Contributions

The authors contributed to the article as follows: SSM wrote the title, research question, methodology, data analysis, results, and provided data for the tables. SN wrote the introduction, literature review, theoretical framework, discussion, conclusion, references, and collected data. All authors reviewed the final manuscript.

Notes

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