



# “Perceptions on the role of practical and simulated learning in promoting successful entrepreneurship”

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# PERCEPTIONS ON THE ROLE OF PRACTICAL AND SIMULATED LEARNING IN PROMOTING SUCCESSFUL ENTREPRENEURSHIP

## Abstract

Practical work-based learning (WBL) or simulated learning has been widely recognized as essential for developing desirable cognitive and behavioral qualities among university learners. Despite this recognition, most practical and simulated learning experiences have been directed to facilitate learners' employability rather than to promote entrepreneurship. The study aimed to examine the perception of students on the usage of WBL to foster entrepreneurial intention at higher education institutions in South Africa. The study employed mixed research methods. The results show that opportunity recognition, desire to exploit entrepreneurial opportunities, increasing knowledge and skills, desire to be involved in starting a business, desire to own or manage a new business, desire to own or manage an old business, attitude towards entrepreneurship, motivation to be an entrepreneur, and fascination with entrepreneurship were key impacts of WBL among entrepreneurship students. Friedman test was carried out to compare the mean ranks of the nine impacts and test whether there were any significant differences in agreeableness to their impact. The test result was significant, and Kendall's coefficient of concordance of 0.023 indicated no significant differences among the nine impact factors, which are not different in their strength as a key result of WBL. The study recommends the adoption of WBL strategies in entrepreneurial programs at universities.

## Keywords

work-based learning, higher education, students, Friedman test, South Africa

## JEL Classification

E26, I38, D81, D83

## INTRODUCTION

One of the research agendas of the Department of Higher Education and Training (DHET, 2017) relates to the role of practical training and simulated learning in promoting student success. This research theme lies within the quality improvement and educational efficiency dimension of higher education and training in South Africa. Despite the significant attention that has been directed towards work-based learning (WBL) in the HE system, it has been noted that there is a need for further study to examine the perceptions on WBL within the HE matrix. Omoruyi et al. (2017) commented that many entrepreneurship programs in educational institutions are still oriented on the employability of graduates as opposed to engaging in real entrepreneurship. Franco et al. (2010) asserted that the proportion of university graduates who are keen to pursue self-employment through entrepreneurship ventures remains astonishingly small. Therefore, the challenges facing entrepreneurship demand further scrutiny, considering arguments from both social theory and economic theory of economic growth and development innovation (the latter is suggested by Schumpeter, 1939). Thus, there have been calls for reviewing the



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entrepreneurship curriculum to ensure the development of desired cognitive and behavioral skills and competencies that are favorable for entrepreneurial development.

Despite practical training and WBL in HEIs, entrepreneurial initiatives among graduates from HEIs have remained low over the years and unemployment has remained high (Franco et al., 2010, p. 262; Omoruyi et al., 2017). This problem manifests itself in the continued rise in unemployment and the unwillingness of graduates to engage in self-employment through entrepreneurship (Omoruyi et al., 2017). To broaden the WBL and practical training dimensions of the HEI curriculum, it is important to investigate the perceptions of HEIs towards practical training and WBL. This could provide the basis for establishing the causes and possible solutions.

## 1. LITERATURE REVIEW

### 1.1. Work-based (simulated or practical) learning

The WBL concept and its related practical training notions are especially essential for the promotion of entrepreneurship education and entrepreneurial development (Amadi-Echendu et al., 2016). Ahmad et al. (2020) investigated WBL as an approach to entrepreneurial advancement and found that WBL is an effective way of promoting entrepreneurial intention among students as they learn in real-world environments. In an earlier study, Vosloo et al. (2019) observed that HEI curriculum that incorporates some training through WBL and other forms of practical work enhanced entrepreneurial intentions than that which does not contain these notions. Despite that many HEIs now incorporate WBL in their curricula, the uptake of entrepreneurial forms of employment among university graduates remains low (Franco et al., 2010; Omoruyi et al., 2017). Moreover, Ramchander (2019) claims that South African universities are not producing enough entrepreneurs owing to a need to improve the quality of entrepreneurial programs within the HE system. The excitement that has been associated with entrepreneurship (as a panacea to the high unemployment rate in the country) has been dampened by the continued realization that more still needs to be done to transform the education system in South Africa. Unemployment continued to hover above 25% (Bowmaker-Falconer & Herrington, 2020).

Comyn and Brewer (2018) define WBL as an initiative that involves the implementation of paid or unpaid undertakings that reflects on productive work in real workplaces and which may or may

not lead to formal certification. WBL involves integration of work experiences into educational programs within a certain field of study (Atkinson, 2016). In concurrence, Ismail and Mujuru (2020) provide that WBL involves a package of practical skills acquisition through links with industry. The concept of working and learning or learning through working has been in existence in one form or another in South Africa and other countries of the world (Wessels, 2014). Taylor and Govender (2013) observe that the concept of working by doing has been within societies as far back as 450 BC as seen from Confucius's statement, namely: 'Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand'. It can be seen that WBL is based on learning that is associated with skills acquisition. Ori (2013) reported that in the case of South Africa, the concept was popularized by Technikons, which were later transformed to Universities of Technology and have been conceptualized under different terminologies such as 'cooperative education', 'experiential learning', 'service learning', 'work-based learning', and 'simulated learning', etc.

Nenzhelele et al. (2016) recommend higher education institutions to incorporate practical entrepreneurship projects in their entrepreneurship curriculum; this leads to the production of entrepreneurs instead of just entrepreneurship graduates.

Oskooii and Ajali (2017) argue that entrepreneurship causes economic growth. Information, knowledge, and practical-oriented entrepreneurial skills can be imparted for better results. It is emphasized that a country must build up a wide network of institutions that impart entrepreneurship education and training for prospective and existing entrepreneurs; all of the values of entre-

preneurship are the result of the entrepreneurs' interest in creativity and innovation.

Wasilczuk et al. (2021) determined five main factors for the implementation of entrepreneurial competencies in practice for students: lack of capital, risk of failure, insufficient experience and knowledge, income instability, complex procedures and legal norms.

## 1.2. Role of work-based (simulated or practical) learning in entrepreneurship

In South Africa, the Department of Higher Education and Training has shown great interest in cooperative education (Wessels, 2014). Prior research on WBL seems to have focused on the employability of graduates rather than on its impact on entrepreneurship (Mthembu, 2013; Rizzo, 2013; Taylor & Govender, 2013). It has been observed that some HEIs that have adopted WBL can be differentiated by unique graduates' characteristics, labor market orientation of graduates, and entrepreneurial culture. WBL has been reported to train graduates to be action-oriented as well as innovative. In addition, Taylor and Govender (2013) found that WBL and simulated learning allows the development of work readiness among learners. Bux and van Vuuren (2019) studied the role of entrepreneurship education in building self-efficacy among entrepreneurship students using the cognitive theory. Studies on the cognitive dimension of entrepreneurship education have maintained that there are essential cognitive elements in entrepreneurship education that are critical in the development of entrepreneurially favorable attitudes and behaviors. Franco et al. (2010) postulate that the main aim of entrepreneurship education is to develop entrepreneurial intentions among learners and this has been analyzed from two perspectives, namely: (1) cognitive or personal factors, and (2) contextual or environmental factors. As such, research in entrepreneurship development has also been aligned along with cognitive and environmental antecedents of entrepreneurship (Lose & Tengeh, 2015). This study is consistent with the cognitive perspective in entrepreneurial development.

The study aims to examine the perception of students on the usage of WBL to foster entrepreneur-

ial intention at higher education institutions in South Africa. The study arose the question of what the perceptions of final year entrepreneurship students at a selected HEI in respect to WBL and practical learning are.

## 2. METHODS

As argued by Creswell (2013), the study of perceptions, attitudes, and opinions is often oriented to qualitative study as they are often characterized by high subjectivity. However, following Likert type, attitudes, objectivity, and quantification have also become popular in these social science constructs. In consideration of the above and given that the study is descriptive and formulated around the study of perceptions of HEIs, the qualitative research model, as well as the quantitative research tradition, are found suitable. The use of both traditions is also deemed critical for increasing the strength, reliability, and validity of the study through the triangulation of data. This is because mixed methods can answer different questions, so combining them can provide one with more in-depth findings. The initial aim of data collection is to identify key universal attributes and dimensions that describe entrepreneurs. The second aim is to establish how well these dimensions are perceived as inherent in WBL and practical learning activities that are done by HEI students. To establish the universal dimensions of entrepreneurship it was necessary to have data across nationalities to ensure that the dimensions are not context-specific but general. The Global Economic Monitor (GEM) was deemed a suitable, reliable, and valid source of such information as it collects credible global data on entrepreneurship. As a result, the study pursued a mixed-method design based on the analysis of secondary data as well as the analysis of a Likert-type questionnaire. The qualitative data were in the form of responses provided by 14 entrepreneurs to the question: 'What does being an entrepreneur mean to you?' The fourteen entrepreneurs were taken from the GEM 2019/2020 report. The sample size of 14 was selected using purposive sampling techniques. In its report, the GEM included some short case studies of practicing entrepreneurs from different countries. The responses were then coded into certain behaviors and cognitive elements possessed by entrepreneurs.

The codes were then taken for further analysis following a survey approach, (Quali-Quant) sequential, which was based on the collection of quantitative data from a sample size of 50 final-year students from the Entrepreneurship Department of a higher education institution. The sample was randomly selected. This was conducted to establish the level of agreement held by the respondents on the impact of WBL and practical training in developing required entrepreneurial competencies. The survey involved a five-point Likert scale questionnaire that inquired on levels of agreement that WBL resulted in the development of certain behaviors and cognitive attributes among the respondents. As such, items on the quantitative data

collection instrument arose from the results of the analysis of secondary data in consideration of the study objectives. The data were analyzed using SPSS to measure statistical frequencies such as mean and standard deviation. The study was piloted on 5 respondents to increase the reliability and validity of the instrument before it was issued out.

### 3. RESULTS

Table 1 shows the results from the secondary analysis of qualitative data from 14 cases of entrepreneurs who responded to the question “What does being an entrepreneur mean to you?” In its

**Table 1.** Analysis of the secondary data

Source: Bowmaker-Falconer and Herrington (2020).

Case	What does being an entrepreneur mean to you?	Cognitive elements
Case study 1	“...we believe in potential changes through the promotion of talent and the discipline of thought and actions.... It allows us to accumulate experience in different areas and have a strong multidisciplinary focus with ambitious standards and results, focused on implementing disruptive actions...”	<ul style="list-style-type: none"> <li>• Belief in change and development</li> <li>• Desire to learn</li> <li>• Ambition to develop and grow</li> </ul>
Case study 2	“It is about working according to my personal values. For me, it also means that I aim to steadily improve my business and that I always strive to learn new things. As an entrepreneur, I continue to develop myself and constantly face new challenges”	<ul style="list-style-type: none"> <li>• Strong personal values rooted in certain aspects of the society</li> <li>• Desire to grow and develop</li> <li>• Desire to face challenges</li> </ul>
Case study 3	“As an entrepreneur, you write your own future. The harder you work, the higher the probability of being successful. You need to have passion, be willing to take risks, and continuously recognize opportunities”	<ul style="list-style-type: none"> <li>• Need for passion</li> <li>• Risk-taking behavior</li> <li>• Opportunity recognition</li> <li>• Willingness to work hard</li> </ul>
Case study 4	“Passion for community development. It is the joy of my life...I want to be part of work that attracts, recruits, and develops personnel”	<ul style="list-style-type: none"> <li>• Passion for community development</li> </ul>
Case study 5	“It is more than just creating a successful business and earning money. It is a lifestyle, full of joy, risk, sadness, and often loneliness. But there is always light at the end of the dark tunnel. We are here to make big changes and create new and fair jobs. However, to do this normally means we have to fail first then recover and start over to be the disruptive entrepreneur”	<ul style="list-style-type: none"> <li>• Passion</li> <li>• Strong intrinsic motivation</li> </ul>
Case study 6	“When you have a project, start it. Do not procrastinate. Start with what you can but have a huge vision”	<ul style="list-style-type: none"> <li>• Action-oriented</li> <li>• A strong vision</li> </ul>
Case study 7	“It means hard work, perseverance, boldness, constant firefighting, and motivation. It is a carrot that dangles in front of you, especially when you imagine the company's bright future. It pushes you out of your comfort zone and gives you a feeling of progress and excitement”	<ul style="list-style-type: none"> <li>• Hard work</li> </ul>
Case study 8	“I didn't start the business to be an entrepreneur. I really just wanted better shoes!”	<ul style="list-style-type: none"> <li>• Need for personal growth</li> </ul>
Case study 9	“Within every problem is an opportunity to create innovative business solutions”	<ul style="list-style-type: none"> <li>• Opportunity identification and recognition</li> </ul>
Case study 10	“Bringing a positive impact to people around you gives you satisfaction. Nothing feels better than identifying a problem and then developing a solution that everyone starts using in their daily life”	<ul style="list-style-type: none"> <li>• Passion for community development</li> </ul>
Case study 11	“Entrepreneurs can provide job opportunities and value for both themselves and others with their ideas, creativity, risk-taking, and diligence. Entrepreneurs are the engines of sustainable economy. For me, as an entrepreneur in the social space, I see my work as a mission to create value for the present and the future”	<ul style="list-style-type: none"> <li>• Value creation</li> <li>• Desire to take risk</li> <li>• Identification and exploitation of opportunities</li> </ul>
Case study 12	“Being passionate, loving risk and excitement, being able to face problems during the stressful periods and keeping a cool head in heated situations”	<ul style="list-style-type: none"> <li>• Perseverance</li> </ul>
Case study 13	“As an entrepreneur, all we can do is to bravely and fearlessly embark on this unexplored new path”	<ul style="list-style-type: none"> <li>• Courage for business</li> </ul>
Case study 14	“You need to believe in your vision and have the patience and passion to achieve it. Entrepreneurs need to lead teams and have the ability to adjust to new conditions”	<ul style="list-style-type: none"> <li>• Adaptive to change</li> <li>• Vision for business ventures</li> </ul>

2019/2020 edition, the GEM report provided case studies of entrepreneurs and a content analysis technique of identifying the contents of their responses in line with the question “What does being an entrepreneur mean to you?” To code relevant responses, theoretical and purposive sampling techniques were used as suggested by Glaser and Strauss (1967) who studied grounded theorizing. These techniques are based on the selection of data that is relevant and that addresses the study. The cognitive elements collected were deemed as critical in entrepreneurship and later in the study were used to develop the quantitative data tool and establish how HEI students resonated with these elements. Table 1 shows the snapshots from the case studies and how they were coded.

The results demonstrate that being an entrepreneur involves specific behaviors and cognitive elements, which result in successful entrepreneurship. The codes established resemble the cognitive orientations of practicing entrepreneurs. As such, students of entrepreneurship are expected to slowly develop these elements through both theoretical learning and WBL and its practical activities. In other words, the impact of WBL and practical activities is to enhance the elements from Table 1. In later analysis of quantitative data, it was important

to establish how well WBL and practical learning offered to a HEI enhanced the development of cognitive abilities reviewed in Table 1. Qualitative data analysis involves notable data reduction techniques in a way that addresses the central dictates of a study. As a result, thematic elements were derived from Table 1 and are shown in the coding diagram presented in Figure 1.

Figure 1 depicts the elements for the impact of WBL on entrepreneurial behaviors and the development of an entrepreneurship mindset. The elements such as ‘increases entrepreneurial knowledge and skills’, ‘increases motivation to be an entrepreneur’, ‘desire to manage a new business’, and ‘desire to take up entrepreneurial opportunities’ were the most influential.

The next phase of the investigation is to enquire into the extent to which WBL results in the acquisition and development of the behaviors and cognitive aspects required for entrepreneurship. A five-point Likert-type questionnaire was designed to investigate the level to which final year entrepreneurship students who have undertaken WBL at a HEI agree that WBL results in the development of the behaviors and cognitive aspects from Table 1. The Likert questionnaire was designed to

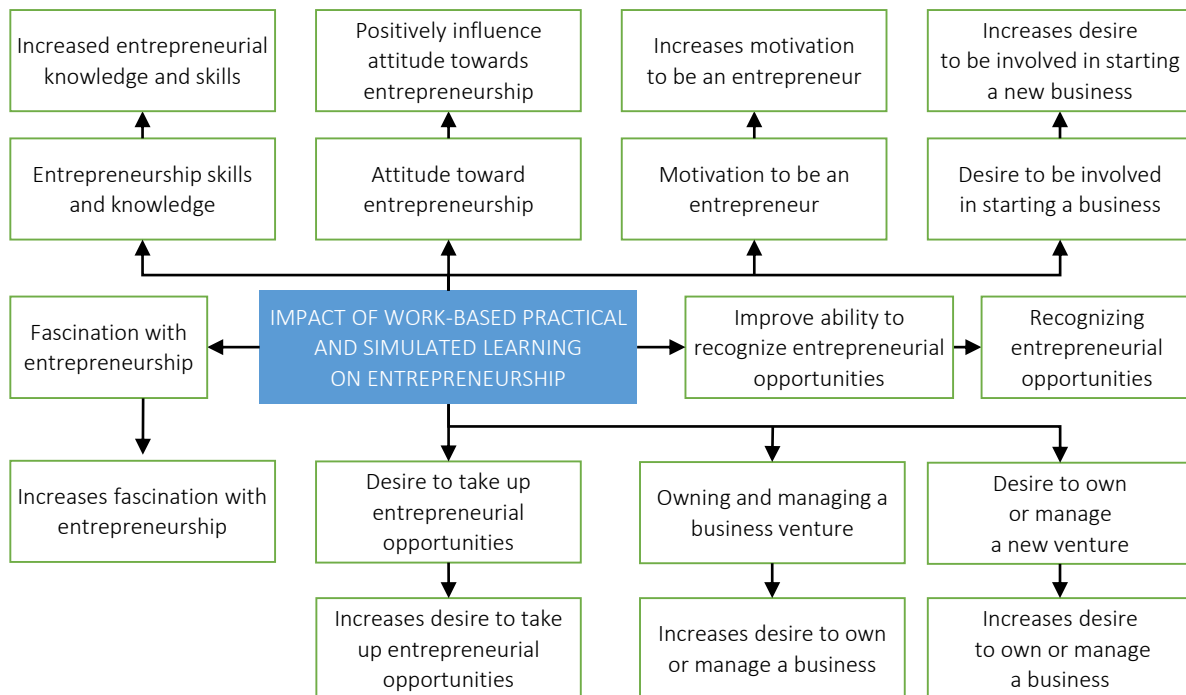


Figure 1. WBL impact on entrepreneurial behaviors and development of an entrepreneurship mindset



determine the level of agreement held by students on 9 statements, which dealt with whether WBL:

- improves the ability to recognize entrepreneurial opportunities;
- increases desire to take up entrepreneurial opportunities;
- increases entrepreneurship knowledge and skills;
- increases desire to be involved in starting a business;
- increases desire to own or manage a new business;
- increases desire to own or manage an old business;
- positively influences attitude towards entrepreneurship;
- increases motivation to be an entrepreneur; and
- increases fascination with entrepreneurship.

These were likely to influence how WBL and simulated learning was different across the entrepreneurial behaviors and cognitive elements.

The information provided from the analysis of secondary data as shown in Table 1 and codified into Figure 1 was then subjected to further quantitative analysis. The study further investigated whether students who are in their final year at a high-ranking university selected in the Western Cape resonated with these factors and the extent to which the factors were different. The next stage of the study aimed to determine whether the 9 factors provided were different in a way that enables the conclusion that one or more of the factors was more important than another. Age and gender distributions of 50 respondents are shown in Table 2. It shows that the majority (35) of the respondents were within the 20–30-year age group of which 23 were males while only 1 of the respondents was less than 20 years old.

**Table 2.** Age and gender distributions of respondents

Age	Gender		Total
	Male	Female	
Less than 20	1	1	2
20-30	23	12	35
31-40	10	1	11
Above 40	2	0	2
Total	36	14	50

Table 3 shows the distribution of respondents in terms of age and race. The majority are Africans in the 20–30 age group. This corresponds with the argument that South Africa is a youthful population. According to Statistics South Africa (2020), 34.7% of the South African population are within the 15–34 age group. Therefore, the enrolment in entrepreneurship programs at the institution seems to reflect the national demographical distribution.

**Table 3.** Age and race distributions of respondents

Age	Race		Total
	African	Colored	
Less than 20	2	0	2
20-30	30	5	35
31-40	11	0	11
Above 40	2	0	2
Total	45	5	50

Descriptive statistics for the nine categories regarding the impact of WBL on entrepreneurial behaviors and the development of entrepreneurship are shown in Table 4. The mean response was less than 2 which means that respondents generally strongly agreed or simply agreed on the cognitive and behavioral impacts of WBL and simulated learning. The standard deviations in responses clearly show that there were not many differences among responses. It shows that the responses were well clustered about the mean. This confirms the very strong predisposition of respondents to agree and to strongly agree with the cognitive and behavioral impacts of WBL and practical training. Table 4 depicts the key descriptive statistics for the behavioral and cognitive impacts of WBL, which were extracted after the analysis of the data using the SPSS program. It also depicts the descriptive statistics to explain the data collected from the Likert-type questionnaire.

## 4. DISCUSSION

9 factors were considered as related samples of behavioral and cognitive impacts of WBL and simulated learning. Each of the factors was considered across 5 levels of agreement based on a Likert scale of ‘strongly agree’, ‘agree’, ‘not sure’, ‘disagree’, and ‘strongly disagree’. As a result, Friedman and Kendall’s W tests were conducted. Friedman test and Kendall’s W test are non-parametric tests for

**Table 4.** Descriptive statistics

Behavioral and cognitive impacts of WBL	N	Mean	Std. deviation	Min	Max	Percentiles		
						25th	50th (median)	75th
Opportunity recognition	50	1.56	.501	1	2	1.00	2.00	2.00
Desire to exploit entrepreneurial opportunities	50	1.62	.635	1	4	1.00	2.00	2.00
Increasing knowledge and skills	50	1.60	.606	1	3	1.00	2.00	2.00
Desire to be involved in starting a business	50	1.52	.735	1	5	1.00	1.00	2.00
Desire to own or manage a new business	50	1.56	.675	1	4	1.00	1.00	2.00
Desire to own or manage an old business	50	1.68	.653	1	3	1.00	2.00	2.00
Attitude towards entrepreneurship	50	1.56	.733	1	5	1.00	1.00	2.00
Motivation to be an entrepreneur	50	1.52	.762	1	5	1.00	1.00	2.00
Fascination with entrepreneurship	50	1.46	.646	1	4	1.00	1.00	2.00

several related samples. Friedman test was used to test whether the level of agreement on the effects of WBL and simulated learning was different across the entrepreneurial behaviors and cognitive elements. It was used to determine whether respondents changed significantly across the nine behavioral and cognitive dimensions of WBL and simulated learning. Both Kendall's W and Friedman tests are used to test the assumption that there is no difference in the level of agreement across all the nine sample factors. The first test statistic is simply the difference between the mean ranks from the Friedman test for the two groups. Kendall's W (coefficient of concordance) is a test that looks at agreement between subjects and gives a value that ranges between 0 and 1. Kendall's W of 1 indicates that all subjects ranked the four methods in the same way and therefore they were in complete agreement. Table 5 shows the mean ranks for the nine behavioral and cognitive impacts following the SPSS analysis.

**Table 5.** Mean ranks for Friedman and Kendall's W tests

Behavioral and cognitive impacts	Mean rank
Opportunity recognition	5.08
Desire to exploit entrepreneurial opportunities	5.25
Increasing knowledge and skills	5.19
Desire to be involved in starting a business	4.79
Desire to own or manage a new business	5.00
Desire to own or manage an old business	5.45
Attitude towards entrepreneurship	4.95
Motivation to be an entrepreneur	4.77
Fascination with entrepreneurship	4.52

Table 5 shows that opportunity recognition (mean rank = 5.08) has a mean rank higher than other

impacts while the fascination with entrepreneurship (mean rank = 4.52) had the lowest rank. It appears that behavioral and cognitive elements associated with opportunities ranked higher than all the other impacts. Table 6 and Table 7 show test statistics for Friedman and Kendall's W tests.

**Table 6.** Friedman test statistics

N	50		
Chi-square	9.035		
Df	8		
Asymp. sig.	.339		
Monte Carlo sig.	Sig.	.341	
	99% Confidence interval	Lower bound	.329
		Upper bound	.353

**Table 7.** Kendall's W test statistics

N	50		
Kendall's W <sup>a</sup>	.023		
Chi-square	9.035		
Df	8		
Asymp. sig.	.339		
Monte Carlo sig.	Sig.	.341 <sup>b</sup>	
	99% Confidence interval	Lower bound	.329
		Upper bound	.353

Note: a. Kendall's coefficient of concordance; b. Based on 10,000 sampled tables with starting seed 2,000,000.

Friedman test was conducted to evaluate differences in medians among the cognitive and behavioral impacts of WBL as follows: opportunity recognition (mean rank = 5.08), desire to exploit entrepreneurial opportunities (mean rank = 5.25), increasing knowledge and skills (mean rank = 5.19), desire to be involved in starting a business (mean rank = 4.79), desire to own or manage a new business (mean rank = 5.00), desire to own or manage an old business (mean rank = 5.45),



attitude towards entrepreneurship (mean rank = 4.95), motivation to be an entrepreneur (mean rank = 4.77), and fascination with entrepreneurship (mean rank = 4.52). The test was significant, and Kendall's coefficient of concordance of 0.023 indicated no significant differences among the nine impact factors. This suggests that the nine responses were perceived to have a similar behavioral and cognitive impact among the respondents. The study seems to be consistent with Ismail and Mujuru (2020), who found evidence that WBL led to the development of certain dimensions of entrepreneurial capabilities. In addition, Said et al.

(2014) found that practical work is essential in motivating learners, increasing their knowledge, and raising interest in a field of learning. The results of this study also appear to be consistent with the World Economic Forum (WEF, 2019), which observes that successful entrepreneurship education should ensure the development of certain mindsets and personal psychological or cognitive states that equips graduates with skills by simulating entrepreneurship within controlled environments. In this regard, WBL appears to be relevant as established in the present study as well as when considering views from literature.

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## CONCLUSION

This study has inquired into WBL and simulated learning as important strategies for developing entrepreneurial competencies among HEI students in South Africa. The study has established that WBL has the potential of inculcating important cognitive and behavioral elements that are essential for developing the entrepreneurial potential of university graduates. The nine factors were considered as related samples, and each of them was considered across five levels of agreement. The results of the analysis show that these desirable elements include the sharpening of opportunity recognition skills and the advancement of key desires to participate in entrepreneurship, among other essentials. Based on these findings, universities are recommended to offer entrepreneurial education with strengthened WBL initiatives in their learning programs to promote the growth of entrepreneurship in the country. Further studies may inquire into the link between WBL and translation of this into real entrepreneurship.

## AUTHOR CONTRIBUTIONS

Conceptualization: Thobekani Lose.

Data curation: Thobekani Lose.

Formal analysis: Thobekani Lose.

Investigation: Thobekani Lose.

Methodology: Thobekani Lose.

Validation: Thobekani Lose.

Visualization: Thobekani Lose.

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